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THE RELATION OF THE PRINCIPALS' PERCEPTION OF THE
CHARACTERISTICS OF THE DIVISION II CURRICULUM AND THE EXTENT
OF THE IMPLEMENTATION OF THE PROGRAM IN SASKATCHEWAN SCHOOLS

by



ALEXANDER JOHN YOUNG GUY

A THESIS

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FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "The Relation of the Principals' Perception of the Characteristics of the Division II Curriculum and the Extent of the Implementation of the Program in Saskatchewan Schools," submitted by Alexander John Young Guy in partial fulfilment of the requirements for the degree of Master of Education.

Date . . . Oct 11. 1967

ABSTRACT

The purposes of this study were (1) to determine the extent of the adoption of the Division II Curriculum in Saskatchewan schools containing Division II classes (school years 4, 5, and 6), (2) to determine which of three characteristics of an innovation, (relative advantage, complexity, and compatibility), as perceived by principals, affect the rate of the adoption of the innovation, the Division II Curriculum, (3) to determine which of selected characteristics differentiated between adopter and non-adopter principals and schools, and (4) to determine which of the characteristics of the innovation and which of the characteristics of principals and schools best predicted the adoption of the Division II Curriculum.

Questionnaires designed to obtain information relevant to the variables were mailed to 766 Division II principals. From the 589 replies, a sample of 561 principals (73.56 per cent) was selected. Of the Division II schools, 235 or 41.89 per cent had adopted the Division II Curriculum.

The principals' perception of the relative advantage characteristic of the Division II Curriculum was significantly correlated in a positive direction with the adoption of the program. No significant correlation existed between the principals' perception of the complexity characteristic of the Division II Curriculum. A significant negative correlation existed between the adoption of the Division II Curriculum and the principals' perception of the compatibility characteristic of that innovation. This finding was opposite to the assumption made by Rogers and Carlson that innovators tend to adopt more quickly innovations which they perceive to have a high degree of compatibility.

In the selected characteristics, significant differences revealed that adopter principals tended to be male and to have more years of tertiary education than did non-adopter principals. Adopter schools tended to be located in areas of high population density, to contain larger numbers of Division II classrooms, and to have larger teaching staffs than did non-adopter schools.

Discriminate function analysis revealed that principals' perceptions of the compatibility and complexity characteristics were the best predictors of the adoption of the Division II Curriculum. The adoption of the Division II Curriculum within schools was best predicted by the number of teachers and the years of tertiary training of the principal.

Principals experienced operational difficulties and a lack of information in implementing the innovation. An analysis of the principals' perception of the characteristics of the Division II Curriculum revealed that the principals perceived the innovation to be more advantageous for pupils and teachers, and presented no difference in difficulty for the curriculum clients when compared to the former curriculums. The greatest changes relative to the implementation of the Division II Curriculum were experienced by pupils, parents and teachers, as perceived by Division II principals.

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The writer wishes to express his thanks to Mr. Henry Janzen, Director of Curricula, Saskatchewan Department of Education, Saskatchewan school superintendents, and the five hundred and eighty-nine principals of Division II schools in Saskatchewan who cooperated wholeheartedly in this study.

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CHAPTER I

INTRODUCTION

J. M. Porter, Director of Education in Guelph, Ontario, expressed the view of an increasing number of educators when he wrote:

Today, as we have been told many times, society is in the midst of rapid and monumental change. It has been said that we have lived a century in the last ten years and that indications are that change will be a fact of life for years to come. Perhaps nowhere does change hold such great implications as in education. For it is the school that must prepare for life in a dynamic society.¹

An editorial in the *Arbos* further delineates education's role in a changing society:

In the face of the rapidly increasing body of knowledge and the drastic modifications of all disciplines as a consequence of new knowledge, the traditional goals of schools are being redefined. . . . At last it is generally accepted that stocking the mind is much less important than developing it. The emphasis has shifted from mastering a specific body of knowledge to learning how to learn.²

A companion article in the *Arbos* states:

The new evangelism in education proclaims that schools must be made to fit the needs of each child. The child must have the right to learn continuously and to develop as an individual.³

¹J. M. Porter, "Canada's National Exhibition of School Architecture," School Progress, January, 1965, p. 26.

²Editorial, "The Knowledge Explosion," Arbos, 3:2, November-December, 1966, p. 7.

³Editorial, "The Old Myths and the New Evangelism in Education," Arbos, 3:2, November-December, 1966, p. 7.

The achievement of the new goals of education calls for a revolution in educational thinking and practice. Education must be prepared to adapt its programs to the changing needs of society and implement these changes at a rate to keep pace with immediate and future demands of individuals within society. Many observers have noted that schools have been slow in adopting changes. Mort in discussing the results of studies of educational adaptability states:

It takes an amazingly long time for a practice to spread through a state or nation as a whole. Fifty years from the time of first introduction to complete diffusion is a conservative estimate.⁴

To foster the implementation of needed change in education requires that educators possess a knowledge of change and the process of change. The knowledge of the characteristics of innovations, and the understanding which will result from research in the variables which affect the implementation of change, will enable educators to bring about change effectively in education to meet the needs of society and the individual needs of the clients of education.

I. THE DIVISION SYSTEM OF SCHOOL ORGANIZATION IN THE PROVINCE OF SASKATCHEWAN

The Department of Education of Saskatchewan, in an attempt to meet the educational needs of the pupils of the province, has introduced a plan to radically change the organization of the school. The new

⁴Paul R. Mort, Educational Adaptability (New York: Teachers College, Columbia University, 1953), p. 5.

structure for learning, which is being promoted by the Department, eliminates the traditional grade system and encourages more attention to individual progress and promotion.

To encourage more attention to individualized learning procedures and more flexible promotion policies it is planned to divide the present twelve-grade school organization into four divisions: Division I (years 1, 2 and 3); Division II (years 4, 5 and 6); Division III (years 7, 8 and 9); and Division IV (years 10, 11 and 12).⁵

Under the divisional plan of organization continuous progress at varying rates of learning is envisaged.

It is planned to organize twelve units of work within each of the primary (Division I) and junior (Division II) divisions for each of the following areas of study: reading, arithmetic, and English language (including spelling and handwriting). The twelve units must be satisfactorily completed before the child moves to the next division.

It has been found through experience that a teacher can manage at least three groups in her classroom. Each group moves from unit to unit at a different rate. The advanced group, by completing six units of work each year, could complete the work in a division in two years. At four units of work per year, the average group would complete a division in three years. It is possible that the least advanced group might only complete three units per year, thus taking four years to complete the program within a division.⁶

The Department of Education presents a summary of the assumptions and points of view supporting the divisional plan for organization, in which continuous progress at varying rates of learning is inculcated.

⁵Government of Saskatchewan, Department of Education, A Plan for the Reorganization of Instruction in Saskatchewan Schools (Regina, Saskatchewan: The Queen's Printer, 1963), p. 7.

⁶Ibid., pp. 7-8.

1. It is assumed that each child has his own pattern and rate of growth, and that children of the same chronological age vary greatly in their abilities and rate of growth.
2. That basic differences in learning rate are recognized by providing longer time for given blocks of work for slower learning students and reduced time for brighter students.
3. The continuous progress related to pupils' ability eliminates undue pressure and produces a relaxed learning and environment conducive to good mental health.
4. The evaluation of growth is continuous, eliminating the year-end days of decision.
5. That steady growth keeps the slow learning student from becoming frustrated, and continuously challenges the talented ones, thus eliminating many behavioral problems.
6. The success and satisfactory achievement by both slow and fast learners provides better public relations with parents.
7. That teaching under this plan will be more demanding, but more satisfying.⁷

The Minister of Education for Saskatchewan has authorized that the first two divisions of the four divisions of the Division Plan be implemented in Saskatchewan schools; Division I in July, 1964 and Division II in July, 1965. While a survey completed by the Department of Education in June, 1963, revealed that 18 places were trying out forms of the Division Plan mainly at the Division I level, no subsequent attempts have been initiated to determine the extent of the implementation or to conduct an evaluation of the authorized Division I and Division II programs.

⁷Ibid., p. 10.

II. THE PROBLEM

The purpose of this research is: (1) to determine the extent of the full adoption of the Division II Curriculum, authorized in July, 1965, in Saskatchewan schools, and (2) to determine whether a significant relationship exists between the principals' perception of the characteristics of the Division II Curriculum and the program's adoption.

Specific Statement of the Problem. What is the extent of the adoption of the Division II Curriculum in the schools of the province of Saskatchewan and is the adoption or rejection of this innovation dependent upon the way in which the characteristics of the innovation are perceived by the principal?

Sub Problems. This study seeks answers for the following questions:

1. How many schools in the province of Saskatchewan have fully adopted the Division II Curriculum, authorized for implementation in July, 1965, by the Department of Education, Province of Saskatchewan?
2. What are the relationships between the acceptance or rejection of the Division II Curriculum shown by principals of Division II schools in the following variables:
 - (i) Perceived relative advantage of the innovation.
 - (ii) Perceived complexity of the innovation.
 - (iii) Perceived compatibility of the innovation.

III. IMPORTANCE OF THE STUDY

Importance for Educational Research. Rogers identifies the characteristics of innovations as perceived by members of social systems as an area which has not been studied, but needs to be.⁸

He further identifies the problem by stating:

It matters little whether or not an innovation has a great degree of advantage over the idea it is replacing. What does matter is whether the individual perceives the relative advantage of the innovation.⁹

Seeger, in speaking of the adoption of new educational practices recognizes the concern of educational administrators in the topic:

The adoption of new educational practices or rather the variability between educational units with respect to the rate of adoption of educational innovations, has been a long standing concern to administrators, particularly educational administrators.¹⁰

Ingram, in discussing the influences which affect the adoption or rejection of an innovation states:

Decisions regarding the adoption or rejection of an idea are influenced by its relative advantage, its complexity, its compatibility with existing value

⁸Everett M. Rogers, Diffusion of Innovations (New York: The Free Press of Glencoe, 1962), p. 121.

⁹Ibid., p. 124.

¹⁰J. E. Seeger, "Principals as Innovators," The Principal and Educational Change, E. Miklos and H. E. Farquhar, editors (Edmonton: The Policy Committee, Leadership Course for School Principals, 1966), p. 47.

systems, its divisibility, and its communicability, ¹¹ as these are perceived by the individuals concerned.

It is hoped that this study will, by concentrating on the principals' perception of the characteristics of Division II as an innovation, provide knowledge heretofore undetermined which will be useful in the promotion of new practices in schools.

Importance to the Province of Saskatchewan. H. Janzen, Director of Curricula, Department of Education, Province of Saskatchewan, in a letter dated January 26, 1967, in answer to a letter of January 23, 1967, requesting information regarding the implementation of the Division II Curriculum in the province, outlines the importance of the study to the Saskatchewan Department of Education:

The topic you are tackling is one with which we are presently concerned. Just last week we had a meeting to determine how we could arrange an evaluation of the extent to which Division I and II programs are being implemented. We have set up a committee of three to bring forward some suggestions as to methods of discovering what is actually being accomplished. Behind this investigation we hope will come some positive encouragement to those areas which have progressed very little.¹²

This statement by H. Janzen identifies the importance of discovering the extent of the implementation of the Division I and II Curriculum Programs in the province. An editorial in the Arbus

¹¹E. J. Ingram, "Implementing Educational Change," The Principal and Educational Change, E. Miklos and H. E. Farquhar, editors (Edmonton: The Policy Committee, Leadership Course for School Principals, 1966), p. 45.

¹²H. Janzen. A letter written by the Director of Curricula, Department of Education, Government of Saskatchewan, to the author, dated January 26, 1967, and attached as Appendix A.

further enunciates the need for a study of this type:

Ever since the Division System became officially established in Saskatchewan we've waited anxiously for a transformation of education in this province. We're still waiting.

Teachers have been deluged with words, spoken and written, that expounded the theory of the continuous learning, non-graded school system. There is little evidence to indicate that the theory has been translated into effective practice.¹³

IV. DEFINITIONS OF TERMS USED

An innovation. This term is used throughout this study in the sense in which it is used by Graham, that is, a new practice of which acceptance can easily be discovered, and which has been introduced sufficiently recently for a considerable proportion of the population to be still in the process of adopting it.¹⁴

Adoption process. This term is employed to identify the mental process that individuals pass through in adopting an innovation. Rogers claims that every individual passes through five stages in adopting a new idea, these being: (1) the awareness stage, (2) the interest stage, (3) the evaluation stage, (4) the trial stage, and (5) the adoption stage.¹⁵

¹³Editorial, "It's Time To Translate Theory into Practice," Arbus, 3:1, September-October, 1966, p. 5.

¹⁴Saxon Graham, "Class and Conservation in the Adoption of Innovations," Human Relations, 9:February, 1956, p. 92.

¹⁵Rogers, op. cit., pp. 17-18.

Diffusion. The term diffusion refers to the spread of an innovation from its source to its adoption or rejection. Rogers identifies four elements in the diffusion of innovations--the innovation, its communication, a social system, and time.¹⁶

Relative advantage of an innovation. For the purpose of this study the relative advantage of an innovation is defined as the degree to which the Division II Curriculum is perceived by principals of Division II schools to be superior to the Grade 4, 5 and 6 Curriculums which it replaces. This definition is in keeping with Rogers' definition of the term as the degree to which an idea is superior to the idea it supersedes.¹⁷

Complexity of an innovation. This term refers to the degree to which the newly authorized Division II Curriculum is perceived by principals of Division II schools to be relatively difficult to understand and use when compared to the former Grade 4, 5 and 6 Curriculums.

Compatibility of an innovation. This term is used throughout this study to mean the degree to which the newly authorized Division II Curriculum is perceived by principals of Division II schools to be operationally consistent with the former Grade 4, 5 and 6 Curriculums.

Perception. This term refers to the way in which principals of Division II schools respond to the sense and impressions they detect concerning the Division II Curriculum. The definition is consistent with the definition of the term by Lindesmith and

¹⁶Ibid., p. 13.

¹⁷Ibid., p. 124.

Strauss.¹⁸

Division II school. This term refers to any Saskatchewan school in which the second three years of the elementary program, designated as Division II, are completely or partially instructed.

Division II Curriculum. This term refers to the Curriculum issued and authorized for the second three years of the elementary school in July, 1965, by the Saskatchewan Department of Education. This curriculum replaces the former Grade 4, 5 and 6 Curriculums.

Adopter school. This term refers to any school which has adopted the Division II Curriculum as authorized by the Saskatchewan Department of Education.

Non-adopter school. This term refers to any school in the sample which does not meet the criterion of an adopter school.

Adopter principal. This term refers to the principal of an adopter school.

Non-adopter principal. This term refers to the principal of a non-adopter school.

Tertiary training. This term refers to university training.

V. ORGANIZATION OF THE THESIS

This introductory chapter has outlined the problem which will be investigated, its importance, the definitions of the terms used,

¹⁸Alfred Lindesmith and Anselm Strauss, Social Psychology (New York: Holt, Rhinehart and Winston Co., 1956), p. 85.

the limitations and assumptions which underlie the study. The remainder of the thesis will be organized as follows:

- Chapter II: Review of Related Literature and Research and the Statement of Consequent Hypotheses and Problems.
- Chapter III: Research procedures, Instruments, Samples, and Methodology.
- Chapter IV: Description of the Sample.
- Chapter V: Identification of Adopter Schools and Calculation of Indices of Relative Advantage, Complexity and Compatibility.
- Chapter VI: Analysis of Data Relevant to Hypotheses.
- Chapter VII: Description of the Sources of Information, Areas of Difficulty, Advantages and Differences Relative to the Division II Curriculum as Perceived by Principals.
- Chapter VIII: Summary, Conclusions and Suggestions for Further Research.

VI. ASSUMPTIONS

The basic assumption of this study is that principals have considerable freedom with regard to promoting the adoption of the Division II Curriculum in their schools.

A second assumption is that although the authorization for the implementation of the Division II Curriculum came from the Department of Education of the province of Saskatchewan, the

implementation of the Division II Curriculum within a school was dependent upon the approval of the principal.

It is postulated that a meaningful and discriminating index or indices of principals' perceptions of Relative Advantage, Complexity, and Compatibility can be developed from the obtained data. Accurate recall, perceptions, and judgments by principals are assumed. The instruments are assumed to possess a degree of validity and reliability suitable for the present study, and to produce responses which are amenable to the statistical procedures applied.

VII. SUMMARY OF CHAPTER I

The Department of Education in the province of Saskatchewan, in authorizing the Division II Curriculum which incorporates both the continuous progress plan and the non-graded organization for elementary schools, introduced an innovation of far reaching consequence. The literature stresses the need for not only a detailed investigation of the way in which educational innovations are spread and the roles of principals and teachers in the adoption of innovations, but for an investigation of the extent of the diffusion of the Division II Curriculum in the province of Saskatchewan.

The problem of this study is two-fold: to determine the extent of the full adoption of the Division II Curriculum in the province of Saskatchewan, and to determine the relationship between the principals' perception of the characteristics of the Division II Curriculum and the full adoption of the program in their schools.

CHAPTER II

REVIEW OF THE LITERATURE

I. THE ADOPTION PROCESS

The adoption and diffusion processes are described in detail by Rogers who differentiates between the two processes:

The adoption process is the mental process through which an individual passes from first hearing about an innovation to final adoption. Five stages in the adoption process are: awareness, interest, evaluation, trial and adoption. The adoption process differs from the diffusion process in that the adoption process deals with the adoption of a new idea by one individual, while the diffusion process deals with the spread of new ideas in a social system, or with the spread of innovations between social systems or societies.

Rogers describes the type of behavior an adopting unit displays in each of the stages:

1. The awareness stage. At this stage the individual is exposed to the innovation but lacks complete information about it.

2. The interest stage. At this stage the individual becomes interested in the new idea and seeks additional information about it.

3. The evaluation stage. It is at this stage that the individual mentally applies the innovation to his present and anticipated future situation, and then decides whether or not to try it.

4. The trial stage. At the trial stage the individual uses the innovation on a small scale in order to determine its utility in his own situation.

¹Everett M. Rogers, Diffusion of Innovations (New York: The Free Press of Glencoe, 1962). p. 121.

5. The adoption stage. At the adoption stage the individual decides to continue the full use of the innovation.²

Two comments should be made about the adoption process. First it must be recognized that the adoption process is a type of decision making.

A strategy for innovation is, in essence, a strategy of decision making. Decision making lies at the very core of innovation and is essential to the rational strategy for moving innovation from idea to reality, from paper to people. . . . It (decision making) must be an integral part of the strategy in all stages of the innovation and in determining the changes that innovations will generate.³

Second, the stages of the adoption process are not discrete.

There is very little evidence as to exactly how many stages there are in the adoption process. Nevertheless, until more evidence is available, it seems conceptually clear and practically sound to utilize the five-stage adoption process.⁴

Influences which Affect the Adoption Process

Various influences affect the individual as he passes through the five adoption stages. Rogers identifies these as: (1) antecedents, (2) sources of information, and (3) characteristics of the innovation.

1. Antecedents. Antecedents are those factors present in the situation prior to the introduction of an innovation. Rogers

²Ibid., pp. 81-86.

³Derek V. Morris, "A Strategy for Innovation in Educational Systems," The C.S.A. Bulletin, 6:1, November, 1966, pp. 22-23.

⁴Rogers, op. cit., pp. 97-98.

identifies two major types of antecedents: The actor's identity. and his perception of the situation.

The actor's identity, which affects the adoption of innovations, is comprised of his sense of security, his dominant values, his mental ability and conceptual skill, his social status and his cosmopolitness. . . . The actor's perception of the situation affects his adoption behavior. The social systems norms on innovativeness serve as incentives or restraints on his behavior.⁵

2. Sources of information. Information sources are important stimuli to the individual in the adoption process.

The individual becomes aware of the innovation mainly by impersonal and cosmopolite sources such as mass media. At the evaluation stage the individual forms his perception of the characteristics of the innovation. Localite and personal information sources are more important at the evaluation stage.⁶

3. Characteristics of the innovation. Barnett identifies the importance of the characteristics of an innovation in relation to its adoption.

The reception given to a new idea is not so fortuitous and unpredictable as it sometimes appears to be. The characteristics of the idea itself is an important determinant.⁷

Rogers identifies five characteristics of innovations which affect the rate of adoption. Each characteristic is conceptually distinct, but somewhat interrelated to the other four.

⁵Ibid., pp. 305-307.

⁶Ibid., p. 307.

⁷Homer G. Barnett, Innovations: The Basis of Cultural Change (New York: McGraw Hill and Co., 1953), p. 313.

It matters little whether or not an innovation has a great degree of advantage over the idea it is replacing. What does matter is whether the individual perceives the relative advantage of the innovation. Likewise it is the potential adopter's perceptions of the compatibility, complexity, divisibility, and communicability of the innovation that affects its rate of adoption.⁸

Rogers describes each of the five characteristics of innovations in detail.

1. Relative advantage. Relative advantage is the degree to which an innovation is superior to ideas it supersedes.⁹

The relative advantage of a new idea, as perceived by members of a social system, affects its rate of adoption.¹⁰

2. Compatibility. Compatibility is the degree to which an innovation is consistent with existing values and past experience of the adopters. An idea that is not compatible with the cultural norms of a social system will not be adopted so rapidly as an idea that is compatible.¹¹

An innovation may be compatible not only with cultural values but also with previously adopted ideas. Compatibility of an innovation with a preceding idea that is evaluated unfavorably may retard its rate of adoption. Thus compatibility may either speed up or retard adoption rate.¹²

3. Complexity. Complexity is the degree to which an innovation is relatively difficult to understand and

⁸Rogers, op. cit., p. 124.

⁹Ibid., p. 124.

¹⁰Ibid., p. 126.

¹¹Ibid., pp. 126-127.

¹²Ibid., p. 127.

use. Although research evidence is far from conclusive, the generalization is suggested that the complexity of an innovation as perceived by members of a social system, affects its rate of adoption.¹³

4. Divisibility. Divisibility is the degree to which an innovation may be tried on a limited basis. New ideas which can be tried on the installment plan will generally be adopted more rapidly than innovations which are not divisible. . . . A generalization suggests, in spite of its lack of wide evidence, that the divisibility of an innovation, as perceived by members of a social system, affects its rate of adoption.¹⁴
5. Communicability. Communicability is the degree to which the results of an innovation may be diffused to others. The communicability of an innovation, as perceived by members of a social system, affects its rate of adoption.¹⁵

The Use of Relative Advantage, Complexity and Compatibility

In the study of the relation of the principals' perception of the characteristics of the Division II Curriculum and the adoption of the program only the first three characteristics of relative advantage, compatibility and complexity are considered.

Divisibility of the Division II Curriculum for the purpose of this study is accepted. The two main segments of the program, promotion based upon units of work completed and grouping of students within classrooms for the instruction of arithmetic, reading, language and spelling,

¹³Ibid., p. 130.

¹⁴Ibid., p. 131.

¹⁵Ibid., p. 132.

may be implemented separately. The instruction of pupils in groups in the four skill subjects, as well, may be implemented subject by subject, with no interdependence on the other subjects instructed. It is therefore assumed that the Division II Curriculum possesses divisibility and may be tried on a limited basis, and as a result divisibility as a characteristic of the innovation is not considered in this study.

Communicability, while an important factor in affecting the adoption process, is not considered in this study for two main reasons. First, each principal and teacher of Division II classes was issued an Elementary School Curriculum Guide for Division II concurrently, as well as the pamphlets Some Questions and Answers Relative To A Plan For The Reorganization of Instruction in Saskatchewan Schools, and A Plan For The Reorganization of Instruction in Saskatchewan Schools providing each party with equal source material. Second, the principal's role as a result became one of an innovation interpreter rather than innovation communicator, thus invalidating a study of the principals' perception of the communicability of the Division II Curriculum.

Current Research on the Characteristics of Innovations

Two recent research studies conducted to determine the relation between the adopter's perception of the characteristics of innovation and the time of the actual implementation of the innovations set precedence for this research study.

Carlson by assuming that the characteristics of an innovation account for its rate of diffusion studied the implementation of accelerated

programs, foreign language, modern mathematics, programmed instruction and team teaching in Oregon school systems. As a result of the study Carlson found, "based on this limited effort, it can be seen that varying rates of diffusion of educational innovations are only partly accounted for by the five characteristics of innovations."¹⁶

Holdaway considered only the relative advantage, complexity and compatibility dimensions in a study of 359 teachers' and 36 principals' perceptions of the characteristics of five innovations: departmentalization, consultants, parent interviews, Grade 5 and 6 French, and television. Multiple regression analyses were performed in an attempt to determine whether perception of any of the characteristics could be used as predictors of early or in-depth adoption of particular innovations. The obtained result pointed to relative advantage and compatibility as being more associated with adoptions than other characteristics.¹⁷

II. THE DIVISION II CURRICULUM

In July, 1965, the Department of Education of the province of Saskatchewan issued and authorized the Elementary Curriculum Guide for Division II for implementation in Saskatchewan schools. Two major changes in school organization were inculcated in the new program, the replacing

¹⁶Richard O. Carlson, Adoption of Educational Innovations (Eugene, Oregon: The Centre for Advanced Study of Educational Administration, 1965), p. 73.

¹⁷E. A. Holdaway, "Five Characteristics of Innovations," (unpublished manuscript, The University of Alberta, 1967).

of Grades 4, 5 and 6 by 12 Units of Work and the grouping of students within classrooms as a procedure to challenge pupils and allow for differing rates of student progress.

In the Forward of the Elementary Curriculum Guide for Division II the Department of Education describes the reorganization of instruction.

This Curriculum Guide for Division II (years I, II, III) is the second phase in the implementation of the plan for the reorganization of instruction in Saskatchewan schools. The reorganization is based on the conviction that the removal of grades is a necessary condition for the fullest development of individual pupils. Educational research has provided abundant evidence that pupils differ markedly in their rates and capacity for learning. School administrators, therefore, have been faced with the problem of devising new procedures which will challenge each pupil to his fullest effort, and at the same time allow differing rates of progress.¹⁸

Mr. H. Janzen, Director of Curricula, states three criteria for distinguishing between adopter and non-adopter schools of the Division II Curriculum.

The criteria for distinguishing between those who have adopted effectively the Division II philosophy and those who have not would appear to me as being the following: (a) Belief in the "continuous progress" concept for each individual (b) Flexible promotion (no grades) (c) Effective grouping of pupils.¹⁹

1. Grouping. In a pamphlet published by the Department of Education in October, 1963, grouping procedures were outlined.

¹⁸Government of Saskatchewan, Department of Education, Elementary School Curriculum Guide for Division II (Regina, Saskatchewan: Queen's Printer, 1965), p. 3.

¹⁹Janzen, op. cit., p. 2-3.

Grouping is an instructional procedure based on the learning needs of individual pupils. By grouping, teachers can adapt the curriculum to individual needs and provide appropriate means for continuous development. Most classes tend to divide themselves into three groups: those who are unquestionably mature; those who are capable of average progress; and those who develop slowly. . . . The specific needs of the child determine his grouping, hence flexible grouping is desirable. All grouping is done in such a way that the pupil is working on his achievement and maturity level.²⁰

A further statement, contained in the same publication sets, by inference, the number of groups to be organized in each classroom. "It has been found through practice that a teacher can manage at least three groups in her classroom. Each group moves from unit to unit at a different rate."²¹

2. Units of Work. The removal of grades as a necessary condition for the fullest development of individuals resulted in the incorporation of "Units of Work." The planned "Units of Work" as used in the skill subjects within the revised curriculum guides are organized in a step by step, continuous progress method which replaces the previous grades.

The concept which will be used in the skill subjects, in which grouping is vital, is that of a step by step process in the mastering of basic content. . . . It is planned to organize twelve units of work within each of the primary and junior division for each of the following areas of study: reading, arithmetic, and English language (including spelling and handwriting).²²

²⁰Government of Saskatchewan. A Plan for the Reorganization of Instruction in Saskatchewan Schools. (Regina, Saskatchewan: Queen's Printer, 1963), p. 7-8. (Mimeographed.)

²¹Ibid., p. 8.

²²Ibid., p. 8.

Pupils are promoted from unit to unit as the requirements of the unit in the skill subject are mastered, with no fixed standards of achievement within a set time. Evaluation is continuous, and there is no particular day of decision regarding grade placement for the pupil. In regard to the end of the school year the Curriculum Division of the Department of Education states:

At the end of the school year, each child ends his work at the unit that he has reached. He returns to this unit upon his return in September. This is one of the main strengths of the nongraded plan--no "failing," no "skipping," just a sensible continuation of progress.²³

The Implementation of the Division II Curriculum

Although the Elementary School Curriculum Guide for Division II was issued and authorized for use by the Department of Education of the Province of Saskatchewan in July of 1965, it was recognized and accepted that many schools would require additional time to effectively implement the program, as was pointed out in the Forward of this publication.

This Guide replaces for the second three years of the elementary school the formerly issued Elementary School Curriculum, and Curriculum Guides I, II, III and IV. It is the authorized program for Division II. Understandably it will take time in many schools to move effectively into the reorganization.²⁴

H. Janzen, Director of Curricula, Department of Education, Province of Saskatchewan, in a letter dated January 26, 1967, acknowledges the

²³Curriculum Division, Department of Education, Province of Saskatchewan, "The Nongraded Elementary School," (Regina, Saskatchewan: Curriculum Division, 1959), p. 8. (Mimeographed.)

²⁴Government of Saskatchewan, 1965, op. cit., p. 3.

variation in the degree of implementation of the Division II Curriculum in the schools of the province, and suggests a reason for the variation.

. . . the degree of implementation varies markedly depending upon the acceptance of the philosophy by Superintendents, principals and teachers. . . . I think it would be possible to obtain representative samples of two kinds: ones where good progress in implementation has been made, and ones where little has been accomplished to date.²⁵

III. THE PRINCIPAL AS A CHANGE AGENT IN IMPLEMENTATION OF INNOVATIONS

The Principal as a "Change Agent"

In the adoption of the Division II Curriculum it is accepted that the principals of Division II schools play an important change agent role. This contention is ratified by the findings of Chesler, Schmuck and Lippitt in their study of the role of the principal in facilitating the adoption of innovations in nine elementary and secondary schools. They discovered that the principal is an important influence in promoting classroom innovations by teachers, and that the principal can directly stimulate inventiveness by either suggesting or supporting new ideas. Rather than being an innovator himself, the principal's chief function in change is to facilitate and encourage innovation on the

²⁵Janzen, op. cit., p. 2

part of the school staff.²⁶

Demeter, in discussing the principal's role in innovation, agrees with the Chesler findings.

Building principals are key figures in the process. Where they are both aware and sympathetic to an innovation, it tends to prosper. Where they are ignorant of its existence, or apathetic if not hostile, it tends to remain outside of the blood stream of the school.²⁷

Griffiths concludes, as a result of his study of 232 elementary principals in a simulated administrative situation called Whittman School, that the elementary principal seldom introduces a new idea into the school system. The initiative for change must come from the top, and the principal is at least three steps from the top. Once a change has been sanctioned by his superiors, however, the principal will work to effect that change at the building level.²⁸

Purvis recognizes the principal as enjoying ". . . an opportunity for bringing about change which is not duplicated by any other individual in the educational system."²⁹ Downey is in agreement as he sees the

²⁶Mark Chesler, Richard Schmuck and Richard Lippitt, "The Principal's Role in Facilitating Innovation," Theory into Practice, Volume 2, December, 1963, p. 279.

²⁷Lee Demeter, "Accelerating the Local Use of Improved Educational Practice in School Systems." (Unpublished doctoral dissertation, Teachers College, Columbia University, 1951), cited by Everett M. Rogers, "What are Innovators Like?" Theory into Practice, Volume 2, December, 1963, p. 23.

²⁸Daniel E. Griffiths, "The Elementary-School Principal and Change in the School System," Theory into Practice, Volume 2, December, 1963, pp. 283-284.

²⁹N. M. Purvis, "The Use of Staff Projects in In-Service Education," The Skills of an Effective Principal. Lawrence W. Downey, editor (Edmonton: The Policy Committee, Leadership Course for School Principals, 1961), p. 73.

effective principal as an administrator who ". . . will see to it new ideas find their way into his school. . . . In effect, he will become his own change agent."³⁰

Miles, in the summary of Group Discussions at the Seminar on Change Processes in the Public Schools, reports:

We have been talking up to that point almost as if the superintendent was the key--as if he were the only person in the situation and as if his way of operating an innovative role was going to be the sole determinant of the consequences. The group began backing away and pointing out that there are figures called building principals and various figures in the system, and that working with them becomes very crucial.³¹

Seeger, in a study which sought to examine the amount of variability among individual schools in the adoption of new practices that can be explained in terms of the factors associated with the school principal states:

In general, elementary school principals, when described in terms of certain characteristics, do have an important influence on the adoption of new educational practices within the schools to which they are assigned.³²

³⁰Lawrence W. Downey, "Statesmanship in Education," The Skills of an Effective Principal. Lawrence W. Downey, editor (Edmonton: The Policy Committee, Leadership Course for School Principals, 1961), p. 135.

³¹Matthew B. Miles, "Summaries of Group Discussions. Seminar on Change Processes in the Public Schools, Group A," Change Processes in the Public Schools (Eugene, Oregon: The Centre for the Advanced Study of Educational Administration, 1965), p. 81.

³²J. E. Seeger, "Principals as Innovators," The Principal and Educational Change. E. Miklos and H. E. Farquhar, editors (Edmonton: The Policy Committee, Leadership Course for School Principals, 1966), p. 54.

Brickell, considers the change agent role of the principal as being based upon authority, and by the use of authority the principal can implement innovations.

The administrator may promote--or prevent--innovation. He cannot stand aside, or be ignored. He is powerful not because he has a monopoly on imagination, creativity, or interest in change--the opposite is common--but simply because he has the authority to precipitate the decision. Authority is a critical element in innovation, because proposed changes generate mixed reactions which can prevent consensus among peers and result in stagnation.³³

The Principal and Program Development

The Division II Curriculum as authorized causes changes in the program of individual schools requiring a new program to be developed at this level in every school.

Mackay sees the principalship as the key position in program development.

If program development activities are to have any effect upon what goes on in the school, the application or implementation of the program is a vitally important task. It is at precisely this point that the principalship emerges as the key position in program development.³⁴

³³Henry M. Brickell, "State Organization for Educational Change: A Case Study and a Proposal," Innovation in Education. Matthew B. Miles, editor (New York: Bureau of Publications, Teachers College, Columbia University, 1964), p. 503.

³⁴D. A. MacKay, "In-Service Education: A Strategy for Staff Development," The Principal and Program Development. F. Enns, editor (Edmonton: The Policy Committee, Leadership Course for School Principals, 1964), p. 65.

The key role of the principal in program development is also accepted by Neal, who identifies the principal's role in relation to other educational agencies.

The principal has a key role in the development of an adequate program. While the major responsibility for setting general aims and selecting curriculum usually lies with provincial authorities or with the school board, the principal must not only understand the basis of curriculum but in some cases he must actually construct a curriculum for some of his pupils . . . he is the guide and consultant for teachers who are making decisions related to the teaching process and the final translation of units of instruction into learning experiences.³⁵

IV: HYPOTHESES

The exploratory nature of this study and the lack of research and learned opinions in the field only suggest a positive correlation between the principals' perception of the characteristics of the Division II Curriculum and the adoption of the program in their schools. As a result, three major hypotheses have been developed, based upon Rogers' theory of the effect which the innovator's perception of the characteristics of an innovation has upon the adoption process.³⁶

Major Hypotheses

Hypothesis 1. "Principals of schools containing Division II tend to adopt more quickly innovations which they perceive to have a high relative advantage."

³⁵W. D. Neal, "The Principal and Program Development," The Principal and Program Development. F. Enns, editor (Edmonton: The Policy Committee, Leadership Course for School Principals, 1964), p. 2.

³⁶Rogers, op. cit., p. 124.

Null Hypothesis 1. "There is no significant correlation between the adoption of the Division II Curriculum in a school and the perception of the relative advantage of the Division II Curriculum held by the principal of that school."

Alternate Hypothesis 1. "A significant positive correlation exists between the adoption of the Division II Curriculum in a school and the perception of the relative advantage of the Division II Curriculum held by the principal of that school."

Hypothesis 2. "Principals of schools containing Division II tend to adopt more quickly innovations which they perceive to have a high degree of compatibility."

Null Hypothesis 2. "There is no significant correlation between the adoption of the Division II Curriculum in a school and the perception of the compatibility of the Division II Curriculum held by the principal of that school."

Alternate Hypothesis 2. "A significant positive correlation exists between the adoption of the Division II Curriculum in a school and the perception of compatibility of the Division II Curriculum held by the principal of that school."

Hypothesis 3. "Principals of schools containing Division II tend to adopt more quickly innovations which they perceive to have a low degree of complexity."

Null Hypothesis 3. "There is no significant correlation between the adoption of the Division II Curriculum in a school and the perception of the complexity of the Division II Curriculum held by the principal of that school."

Alternate Hypothesis 3. "A significant positive correlation exists between the adoption of the Division II Curriculum in a school and the perception of the complexity of the Division II Curriculum held by the principal of that school."

Related Hypotheses

In addition to the three major hypotheses seven related hypotheses concerning the characteristics of principals and the adoption of the Division II Curriculum and four related hypotheses concerning the characteristics of the school and the adoption of the Division II Curriculum were developed.

The results of research by Carlson³⁷ and Hemphill³⁸ among school superintendents and the research by Holdaway³⁹ and Marion⁴⁰ among elementary school principals suggest a number of general hypotheses regarding the characteristics of educational innovators and the adoption of educational innovations. The seven hypotheses selected concerning

³⁷Carlson, op. cit., pp. 49-66.

³⁸H. David Hemphill, "A Survey and Analyses of the Adoption of Automatic Data Processing in Canadian School Districts," (unpublished Master's thesis, the University of Alberta, Edmonton, 1966).

³⁹Edward Allan Holdaway, "An Analysis of Some Factors Affecting Innovation in Elementary Schools," (unpublished Master's thesis, the University of Alberta, Edmonton, 1966).

⁴⁰Guy Bertrand Marion, "A Study of Selected Factors Related to the Innovativeness of Elementary School Principals," (unpublished Doctoral dissertation, the University of Alberta, Edmonton, Alberta, 1966).

the characteristics of the principals of schools containing Division II and the adoption of the Division II Curriculum are considered to be most applicable to this study.

Related Principal Null Hypothesis. Adopter principals do not differ significantly from non-adopter principals on the following variables:

- 4.1 Years of experience as principal.
- 4.2 Years of experience as principal of this school.
- 4.3 Sex of principal.
- 4.4 Age of principal.
- 4.5 Years of tertiary training.
- 4.6 University degree(s) held.
- 4.7 Graduate work completed in educational administration.

Related Principal Alternative Hypothesis. Adopter principals differ significantly from non-adopter principals on the following variables:

- 4.1 Years of experience as principal.
- 4.2 Years of experience as principal of this school.
- 4.3 Sex of principal.
- 4.4 Age of principal.
- 4.5 Years of tertiary training.
- 4.6 University degree(s) held.
- 4.7 Graduate work completed in educational administration.

Four related hypothesis are as well suggested by the research of Carlson,⁴¹ Hemphill,⁴² Holdaway⁴³ and Marion⁴⁴ regarding the characteristics of the adopting unit, which in this study is the Division II school, and the adoption of educational innovations.

Related School Null Hypothesis. Adopter schools do not differ significantly from non-adopter schools on the following variables:

- 5.1 Grades contained in the school.
- 5.2 Number of full time teachers in the school.
- 5.3 Number of Division II Classes in the school.
- 5.4 Location of the school.

Related School Alternate Hypothesis. Adopter schools differ significantly from non-adopter schools on the following variables:

- 5.1 Grades contained in the school.
- 5.2 Number of full time teachers in the school.
- 5.3 Number of Division II Classes in the school.
- 5.4 Location of the school.

V: SUMMARY OF CHAPTER II

In this chapter literature relevant to the proposed research study has been reviewed establishing the characteristics of innovations

⁴¹Carlson, op. cit., pp. 49-66.

⁴²Hemphill, op. cit.

⁴³Holdaway, op. cit.

⁴⁴Marion, op. cit.

as being a determinant of the rate of adoption of innovations. Two previous research studies which give precedence for this research have been identified and summarized.

The Division II Curriculum as authorized was discussed, and the varied extent of its implementation in the schools of Saskatchewan was noted.

The principal was identified as the change agent at the school building level, and the importance of the principal's role in program development was documented. The principal can therefore be accepted as the key figure in the implementation of the Division II Curriculum at the school building level.

Based upon the literature and research reviewed in this chapter, three major hypotheses, in the form of null and alternative hypotheses, were stated. The relationship between the adoption of the Division II Curriculum and characteristics of the principal and the school were considered as related problems to be investigated in addition to the main research study.

CHAPTER III

RESEARCH PROCEDURES, INSTRUMENTS, SAMPLES AND METHODOLOGY

I. VARIABLES

The variables for this study are defined in the following manner.

The Dependent Variable

The dependent variable is the adoption of the Division II Curriculum as authorized by the Saskatchewan Department of Education in July, 1965. The identification of the adopter school is based upon two criteria: (a) the elimination of grades and flexible promotion in units of work; (b) grouping of students in the subjects arithmetic, reading, language and spelling. Those schools which have not adopted these two administrative procedures will be classified as non-adopter schools.

The Independent Variables

The independent variables of the three major hypotheses are the principals' perception of the characteristics of the Division II Curriculum in the dimensions of relative advantage, complexity, and compatibility. The independent variables of the related hypotheses are seven characteristics of the principals of Division II schools and four characteristics of Division II schools.

II. THE POPULATION

This study encompasses all principals of schools containing Division II in the Province of Saskatchewan. The complete population is selected for the reason of obtaining a survey of the extent of the implementation of the Division II Curriculum in Saskatchewan schools.

Principals have been selected as the sample population upon which this study will focus in the desire to obtain more accurate data concerning the implementation of the Division II Curriculum.

H. Janzen, in discussing the proposed population for consideration states:

The big problem is to discover the degree of implementation. One way might be to prepare a questionnaire for superintendents to complete. More accurate data might be secured by having principals and teachers complete the same questionnaire or one specifically prepared for them.¹

Principals were selected as the sample population for the following reasons:

1. Principals have considerable freedom with regard to making changes in their schools.
2. Significant findings which resulted from the Holdaway study were:

¹H. Janzen. A letter written by the Director of Curricula, Department of Education, Government of Saskatchewan, to the author, dated January 26, 1967.

- (a) The innovations which were most widely diffused throughout the school system were generally viewed as more advantageous, more compatible and less complex by the principals than they were by the teachers, and
 - (b) It could be generalized that the extent of diffusion of the five innovations appeared to depend more upon the perception of principals than upon the perception of teachers.²
3. A complete population of Division II teachers in the Province of Saskatchewan would encompass an extremely large sample, and the result obtained might not be relatively more significant than that obtained from Division II principals.

III. THE INSTRUMENT

Principal's Questionnaire

A Principal's Questionnaire (Appendix C) designed to obtain information relevant to the variables and to the survey of the implementation of the Division II Curriculum in Saskatchewan schools was developed. The questionnaire consisted of nineteen items arranged in five sections as follows:

²E. A. Holdaway, "Five Characteristics of Innovations," (unpublished manuscript, The University of Alberta, Edmonton, 1967).

Section I - Characteristics of the sample school.

Section II - Determination of the adoption of the
Division II Curriculum.

Section III - Determination of principal's sources of
information and difficulties in implementing
the Division II Curriculum.

Section IV - Characteristics of principals of sample schools.

Section V - Determination of principals' perception of the
relative advantage, complexity and compatibility
of the Division II Curriculum.

Section I: Characteristics of the Sample Schools

The four questions included in this section were designed to determine the characteristics of the sample schools by requesting the grades included in the school, the number of full time teachers including the principal employed in the school, the location of the school, and the number of Division II classrooms within the school.

Principals were requested to state whether the school was located in a rural area, town or city. In Saskatchewan a city must have a population of five thousand or more, a town a population of more than five hundred but less than five thousand. Villages and hamlets were designated as rural areas for the purpose of this study.

Section II: Determination of the Adoption of the Division II Curriculum

The second section of the principals' questionnaire utilized two questions to determine the extent of the implementation of the Division II

Curriculum within sample schools. Question 5 requested the proportion of Division II classrooms within which pupils are promoted on the basis of units completed. Question 6 was designed to determine the number of instructional groups organized within each classroom for the instruction of arithmetic, reading, language and spelling. Sample schools will be designated as adopter or non-adopter schools as a result of the responses received in this second section.

Section III: Determination of Principal's Sources of Information and Difficulties in Implementing the Division II Curriculum

The third section of the principal's questionnaire was designed to determine the principal's sources of information concerning the Division II Curriculum and the areas of difficulty which principals experienced or envisage experiencing in the implementation of the program. The two questions within the section requested the principal to rank order nine representative sources of information and nine representative areas of difficulty experienced or foreseen in the implementation of the Division II Curriculum.

Section IV: Characteristics of Principals of Sample Schools

The fourth section was made up of seven questions designed to obtain pertinent information about the principal of a sample school. The sex of the principal, the years of experience as a principal, the time spent as principal of the present school, the principal's age, the principal's years of training, the degree(s) held, and the amount of graduate work completed in educational administration were the dimensions requested in the questions

of this section. The characteristics of a principal of an adopter or non-adopter school were delineated upon the basis of the replies to these questions.

Section V: Determination of Principals' Perception of the Relative Advantage, Complexity and Compatibility of the Division II Curriculum

The fifth section was composed of three questions made up of twelve items in each, designed to determine the principals' perception of the relative advantage, the complexity, and the compatibility of the Division II Curriculum. A Likert-type of summated scale of five degrees of agreement or disagreement is employed to register the principal's response to each of the twelve items in each question. From the principal's responses obtained an index of the principals' perception of the three characteristics of the Division II Curriculum was obtained.

The selection and structure of fifth section items. The twelve items contained in each of the three questions of the fifth section were structured to obtain the principals' perception of the relative advantage, the complexity, and the compatibility of the Division II Curriculum in relation to its effects upon the pupils, the parents of pupils, the teachers of Division II, and the principal's administrative role with Division II. The first three items of each question dealt with the relation of the Division II Curriculum and pupils, the next three with the pupil's parents, items g, h and i with Division II teachers, and the final three items with the principal's administrative role in Division II.

Pupils. The relation of the Division II Curriculum with pupils was taken into account in determining the principals' perception of the

characteristics of the Division II Curriculum as it is the pupil's individual development which is the basis of all curriculum. Saylor and Alexander concur with this concept in two statements: (1) "The maximum development of each individual within a framework of the common welfare, is the essence of democracy, and, hence, of schooling,"⁴ and (2) "The program of the school and the learning experiences selected for pupils at all levels must be adapted to the maturity, capacities, and abilities of the learners."⁵

Cay, in discussing the term curriculum, also identifies the pupil as the individual whose needs are served by the curriculum.

It is the master plan devised by educators and other adults in a community state or nation, that will best serve their needs and, as they see it, the needs of other children.⁶

Therefore, the principals' perception of the characteristics of the Division II Curriculum as related to pupils was included as a fundamental dimension of curriculum evaluation as the first three items in each of the three questions of Section V of the Principal's Questionnaire.

Parents. The second three items of each of the three questions in Section V are concerned with the principals' perception of the characteristics of the Division II Curriculum in relation to the parents of Division II pupils.

⁴J. Galen Saylor and William M. Alexander, Curriculum Planning for Modern Schools (New York: Holt, Rhinehart and Winston, Inc., 1966), p. 47.

⁵Ibid., p. 50.

⁶Donald F. Cay, Curriculum: Design for Learning (New York: The Bobbs-Merrell Company, Inc., 1966), p. 1.

The success of the introduction of a new curriculum is dependent in a measure upon the acceptance and understanding of parents. Cay identifies two major areas of possible misunderstanding as educators work with parents, as being those of new methods and new content. Like other citizens, he continues, parents tend to be critical of new methods and content that they do not understand.⁷

If the implementation of the Division II Curriculum is to be effective then the parents of pupils must understand and support the program.

When a child comes to school, he brings many of the ideals, attitudes and prejudices of the home with him. What his parents feel to be important is likely to be of vital significance to the child. It is difficult for the pupil to pursue one value system at home and another at school.⁸

Teachers. The third three items of each of the questions of Section V of the questionnaire were concerned with the principals' perception of the characteristics of the Division II Curriculum as it relates to the teachers of Division II.

The importance of the teacher's role at the classroom level in curriculum implementation is well documented by writers such as Mackenzie, who, in describing over thirty case examples of recent curriculum changes in schools, identifies the vital nature of the teacher's role.

In the cases, the teacher was obviously an important consideration in relation to the substance of teaching. The teacher's roles varied from that of a carrier to

⁷Ibid., p. 82.

⁸Ibid., p. 79.

interpreter to user of subject matter. Also, methods of teaching tended to be controlled by the teachers, and methods of learning were strongly influenced by him as well.⁹

Cay, as well, sees the teacher as an important figure in the implementation of the curriculum.

The teacher, now as always, is the focal point of any curriculum. From the teacher comes the spark that ignites the pupil's enthusiasm for learning.¹⁰

Saylor and Alexander consider teachers as being decision-makers who exercise authority in the teaching process and the classroom operation of curriculum.

. . . it seems to us that teachers and their fellow staff members, using whatever processes are established in each school system, make decisions within legal limitations about the organizational structure, curriculum, program, and teaching practices to be used in educating the children of a community.¹¹

Recognizing the importance of the teacher's role in the implementation of the Division II Curriculum these three items were included as determinants of the principals' perception of the characteristics of the Division II Curriculum as its implementation relates to teachers.

Principals. The final three items in each question of Section V of the principal's questionnaire were designed to determine the principals' perception of the characteristics of the Division II Curriculum as related

⁹Gordon N. Mackenzie, "Curriculum change: participants, power and processes," Innovation in Education, Matthew B. Miles, editor (New York: Bureau of Publications, Teachers College, Columbia University, 1964), p. 405.

¹⁰Cay, op. cit., p. 56.

¹¹Saylor and Alexander, op. cit., p. 93.

to three of his administrative functions, the organization of pupils, the supervision of Division II teachers and student accounting.

The organization of pupils in instructional units by principals in agreement with the philosophy of the Division II Curriculum, is seen by Neal as an important function.

It will be recalled that it was suggested that instructional units should be organized on the basis of information about objectives, pupils' capacities, and how students learn. The organization of pupils will then be determined on the most effective ways of enabling the learners to attain maximum achievement from units of instruction.¹²

Supervision of Division II teachers for the purpose of the maintenance and improvement of instruction is qualified by Enns to include four supervisory functions: (1) the staffing function; (2) the motivating and stimulating function; (3) the consultation function; and (4) the program development function.¹³ Each of these supervisory functions must be fulfilled to insure the effective implementation of the Division II Curriculum.

The principal is recognized as the key figure in the supervision of instruction at the building level as stated by Ziolkowski: "The principal is still regarded as being the most strategically located to carry out the overall function of instructional supervision."¹⁴

¹²W. D. Neal, "The Principal and Program Development," The Principal and Program Development, F. Enns, editor (Edmonton, Alberta: The Policy Committee, Leadership Course for School Principals, 1964), p. 4.

¹³Frederick Enns, "Supervision: A Rationale," The Canadian Administrator, 2:7, April, 1963, pp. 28-29.

¹⁴E. H. Ziolkowski, "Practices in the Supervision of Instruction," The Canadian Administrator, 5:1, October, 1965, p. 1.

The implementation of the Division II Curriculum places additional responsibility upon principals in the field of pupil accounting. Cumulative pupil records must be carefully maintained to determine as accurately as possible the educational status of the students of Division II in order that they may be provided with work which they can undertake with profit within the various levels of the Division. The principals' perception of the characteristics of the Division II Curriculum as related to pupil accounting becomes an important determinant in the administrative role of the principal as related to Division II.

Pilot study. Several drafts of the questionnaire were made before it was administered to a group of forty-four principals of schools containing Division II classrooms employed by the Regina Board of Education. Permission to conduct the pilot study was arranged through the Director of Research of the Regina Board of Education, and relevant correspondence is recorded in Appendix A.

The principals were requested to complete the questionnaire and to make comments on the questionnaire, the individual questions, and the implementation of the Division II Curriculum. On the basis of the forty-three fully completed questionnaires returned and the principals' comments, minor changes were made in the phraseology of two items and one question was eliminated due to its questionable relevance and importance to the study. The principals stated, in general, that they experienced little difficulty in completing the questionnaire, and that the terms used concerning the implementation of the Division II Curriculum were understood and judged to possess clarity.

As a result of the changes made as a direct outcome of the pilot study encompassing principals of Division II schools the questionnaire was assumed to be valid for the purposes of this study.

V. QUESTIONNAIRE DISTRIBUTION AND COLLECTION

A letter (Appendix B) was mailed to each of the sixty-one provincially employed superintendents of school units and the thirteen locally employed superintendents of city school systems in the province of Saskatchewan requesting: (1) permission to solicit the assistance of principals of schools containing Division II within their superintendency by completing the Principal's Questionnaire; and (2) requesting a list of the names and school addresses of said principals. Enclosed with the letter was a copy of the Principal's Questionnaire (Appendix C), a letter soliciting the superintendent's assistance for this study by H. Janzen, Saskatchewan Director of Curricula (Appendix B), a reply form and a stamped return envelope.

Approximately two weeks after the distribution of the letter requesting to conduct the study within Saskatchewan superintendencies, superintendents who had not replied were contacted by telephone. As a result seventy-three of the seventy-four superintendents replied giving permission for the questionnaire to be distributed and listing the names and school addresses of the principals.

A Principal's Questionnaire (Appendix C) was mailed to each of the principals of schools containing Division II with an accompanying letter (Appendix C), a letter from Mr. H. Janzen requesting the principal's

cooperation in the study (Appendix C), and a stamped return envelope. Approximately three weeks after the distribution of the questionnaires a reminder letter was sent to principals from whom no reply had been received. Approximately two weeks after the reminder letter a selected number of the principals of the remaining schools were contacted by telephone. Approximately two weeks following this the sample was closed and subsequent returns were not included in the study.

The Sample

Replies were received from 589 of the 766 principals to whom questionnaires had been mailed. Of these, after incomplete returns had been removed, 561 participated in the study and comprise the sample.

VI. STATISTICAL TREATMENT

This section describes in detail how the data were organized and stored and specifies the procedures used in adapting and examining the data for the prediction of the adoption of the Division II Curriculum in both the major and related hypotheses listed in Chapter II.

Data Organization

The raw data were entered on punch cards, verified and analyzed by programs developed by the Division of Educational Research Services using the facilities of that Division at the University of Alberta. The analyses program was conducted on the IBM 7040 and IBM 360/67 computers at the Department of Computing Science at the University of Alberta.

Research Hypothesis Testing

Major Hypotheses. The dependent variable, the adoption of the Division II Curriculum in Saskatchewan schools is a dichotomous variable encompassing only adoption or non-adoption. The major research hypotheses, as a result, were tested by point biserial correlation¹⁵ to obtain a measure of the relationship between the continuous independent variables of the indices of relative advantage, complexity and compatibility and the dichotomous dependent variable. To measure the differences of means of the two independent samples t-tests¹⁶ were employed. For each test a probability level of 0.05 was accepted as significant.

Related Hypothesis. The related research hypotheses were tested by applying point biserial correlation to obtain a measure of the relationship between the continuous independent variables of the characteristics of principals and sample schools and the adoption of the Division II Curriculum. T-tests were used to measure the difference of means of the two independent samples. Again a probability level of 0.05 was accepted as significant.

In the case of hypotheses 4.3, the independent variable "the sex of the principal" was dichotomous, and as a result the phi coefficient of correlation¹⁷ was employed to measure the relationship between the two

¹⁵George A. Ferguson, Statistical Analysis in Psychology and Education (New York: McGraw-Hill Book Company, 1966), pp. 239-242.

¹⁶Ibid., pp. 136-138.

¹⁷Ibid., pp. 236-239.

dichotomous variables which are discontinuous. A chi-square test¹⁸ for independence of the dependent variable and the independent "sex of the principal" variable was used.

Prediction of the Extent of Adoption of the Division II Curriculum

The discriminate function¹⁹ was used to obtain appropriate weights for the three independent variables of the major hypotheses and the ten independent variables of the related hypotheses in predicting the dependent variable dichotomy, the adoption of the Division II Curriculum.

VII: SUMMARY OF CHAPTER III

The purpose of the chapter was to outline the elements in the research procedures, instruments, samples and methodology used in the research. The dependent variable employed in the study was the adoption of the Division II Curriculum within a school. The independent variables selected in the major hypotheses were the principal's perception of the characteristics of the Division II Curriculum in the dimensions; relative advantage, complexity and compatibility. The independent variables selected in the related hypotheses were eleven characteristics of Division II principals and schools.

A questionnaire designed to gather information relevant to the independent and dependent variables was developed and distributed to 766

¹⁸Ibid., pp. 165-169.

¹⁹James E. Wert, Charles O. Neidt and J. Stanley Ahmann, Statistical Methods in Educational and Psychological Research (New York: Appleton-Century-Crofts, Inc., 1954), pp. 263-270.

principals of Saskatchewan schools containing Division II after permission to do so had been obtained from the superintendents of school units and city superintendencies.

Of the 589 replies received 561 completed questionnaires were included in the research sample.

The statistical analyses used to test the hypotheses as stated in Chapter II were described. The dependent variable being dichotomous in nature required the use of point biserial correlation, and t-tests and continuous independent variables. A chi-square test of independence was used with the dichotomous independent variable. The discriminate function was employed in the prediction of the adoption of the Division II Curriculum in both the major and related hypotheses.

CHAPTER IV

DESCRIPTION OF THE SAMPLE

This Chapter describes the characteristics of the 561 schools comprising the sample and the principals of these schools.

I. SCHOOLS

The grades included in the sample schools ranged from Grade 1 to 6 and Grade 1 to 12. The majority of schools containing Division II classrooms were schools of Grade 1 to 8, and one school contained only Division II classrooms Grade 4 to 6. The distribution is shown in Table I.

The number of full-time teachers, including the principal, in each school varied from less than 4 to more than 40, having a mean of 10.29 teachers, and shows a distinctly positive distribution as shown in Table II.

The location of the schools in the sample indicates that the majority of schools were located within towns, followed by rural areas and cities. The frequency distribution of the location of the sample schools is shown in Table III.

The number of Division II classrooms contained in sample schools ranged from 1 to 19 classrooms with a mean of 3.55 classrooms. The distribution is positively skewed as shown in Table IV.

Intra-group Relationships Within Schools

A number of significant relationships appeared in the inter-correlation matrix of the four variables concerned with the schools in the sample as shown

TABLE I

FREQUENCY DISTRIBUTION OF GRADES CONTAINED
IN SCHOOLS IN SAMPLE
(N = 561)

Category	GRADES CONTAINED IN SCHOOLS		
	Range	Frequency	Percentage Frequency
1	Grades 4 to 6	1	.18
2	4 to 8	6	1.07
3	1 to 6	90	16.04
4	1 to 7	18	3.21
5	1 to 8	237	42.25
6	1 to 9	37	6.60
7	1 to 11	15	2.67
8	1 to 12	57	10.16

TABLE II
 FREQUENCY DISTRIBUTION OF NUMBER OF TEACHERS
 INCLUDING PRINCIPALS OF SCHOOLS IN SAMPLE
 (N = 561)

Category	NUMBER OF TEACHERS INCLUDING PRINCIPALS		
	Range	Frequency	Percentage Frequency
1	4 or fewer	112	19.96
2	5 to 9	174	31.01
3	10 to 14	137	24.42
4	15 to 19	87	15.51
5	20 to 24	40	7.13
6	25 to 29	8	1.43
7	30 to 34	1	.18
8	35 to 39	1	.18
9	40 or more	1	.18
Mean	10.29		

TABLE III
 FREQUENCY DISTRIBUTION OF THE LOCATION
 OF SCHOOLS IN SAMPLE
 (N = 561)

Category	LOCATION OF SCHOOLS		
	Range	Frequency	Percentage Frequency
1	Rural Area ^a	178	31.73
2	Town ^b	216	38.50
3	City ^c	167	29.77

^aCentres with a population less than 500

^bCentres with populations of more than 500 but less than 5,000

^cCentres with a population of more than 5,000

TABLE IV
 FREQUENCY DISTRIBUTION OF THE NUMBER
 OF DIVISION II CLASSROOMS CONTAINED IN
 SCHOOLS OF SAMPLE
 (N = 561)

Category	NUMBER OF DIVISION II CLASSROOMS PER SCHOOL		
	Range	Frequency	Percentage Frequency
1	1	31	5.53
2	2	123	21.93
3	3	211	37.61
4	4	61	10.87
5	5	46	8.20
6	6	53	9.45
7	7	20	3.57
8	8	7	1.25
9	9 or over	9	1.60
Mean	3.55		

in Table V. A probability level of less than or equal to .05 was accepted as indicating a significant relationship between the variables.

The grades taught within the school was significantly correlated with the number of teachers in the school in a positive direction, and in a negative direction with the location of the school and the number of Division II classrooms within the school.

The number of teachers comprising the school staff was significantly correlated in a positive direction with the location of the school and the number of Division II classrooms.

The location of the school was significantly correlated in a positive direction with the number of Division II classrooms in the school.

The four independent variables concerning the characteristics of Division II schools, grades in the school, number of teachers, location of the school and number of Division II classrooms are significantly related. Interpretations made as a result of subsequent analysis of these variables should take into account the relationship among these independent variables.

II. PRINCIPALS

The variables related to the principals fall into three distinct groups dealing with personal, experience and academic factors.

Personal Variables of the Principals. Of the 561 principals of the sample schools, 453 were male and 108 were female, as shown in Table VI. The principals' ages ranged from less than 24 years to 67 years as shown in Table VII. The mean of this negatively skewed distribution is

TABLE V
 INTERCORRELATION MATRIX OF GRADES TAUGHT, NUMBER OF
 TEACHERS, LOCATION, AND NUMBER OF DIVISION II
 CLASSROOMS IN THE SCHOOLS OF THE SAMPLE
 (N = 561)

Variable	1	2	3	4
1. Grades taught in school	1.000	0.282 ^a	-0.307 ^a	-0.104 ^b
2. Number of teachers		1.000	0.356 ^a	0.768 ^a
3. Location of school			1.000	0.437 ^a
4. Number of Division II Classrooms				1.000

^aSignificant at the .01 level

^bSignificant at the .05 level

TABLE VI
 FREQUENCY DISTRIBUTION OF SEX OF PRINCIPALS
 OF SCHOOLS IN SAMPLE
 (N = 561)

Category	SEX OF PRINCIPALS		
	Sex	Frequency	Percentage Frequency
1	Male	453	80.75
2	Female	108	19.25

TABLE VII
 FREQUENCY DISTRIBUTION OF AGES OF PRINCIPALS
 OF SCHOOLS IN SAMPLE
 (N = 561)

Category	AGE OF PRINCIPALS		
	Range	Frequency	Percentage Frequency
1	24 years and under	17	3.03
2	25-29	76	13.55
3	30-34	91	16.22
4	35-39	83	14.80
5	40-44	75	13.37
6	45-49	44	7.84
7	50-54	75	13.37
8	55-59	67	11.94
9	60 or more	33	5.88
Mean	41.70		

41.69 years of age, with the biggest percentage of the principals in the 30 to 34 age group.

Experience Variables of the Principals. Variables expressing the length of time of administrative experience of principals in the sample included: the number of years experience as a principal and the number of years of experience as principal of the present school as shown in Table VIII. The respondents had been principals from a minimum of 1 to a maximum of 23 years with a mean of 8.52 years as a principal. The range of principals' experience at their present school was from 1 to 23 years with a mean of 4.85 years.

Academic Variables of the Principals. Table IX shows that principals are credited with from 1 to 6 years of university training when evaluated for salary purposes. While 29 or 5.17% of the principals had completed only 1 year of training, the majority of principals, 321 or 59.0%, had completed 4 or more years of training. The mean number of years of university training for all principals was 3.54 years.

The university degrees held by principals of the schools in the sample as listed in Table X show that 232 or 41.35% of the principals do not hold a university degree, 173 or 30.84% hold one degree, 23 or 4.10% hold a graduate degree, and 151 or 28.70% hold two or more degrees.

Intra-group Relationships within Principal Characteristics. The intercorrelation matrix (Table XI) shows the relationships which exist between the six variables concerned with the characteristics of principals of schools containing Division II. Significant relationships exist at the probability level of .05 between all variables within the matrix.

TABLE VIII

FREQUENCY DISTRIBUTIONS OF NUMBER OF YEARS OF EXPERIENCE OF PRINCIPALS
OF SCHOOLS IN SAMPLE, AS PRINCIPAL OF ANY SCHOOL,
AND AS PRINCIPALS OF CURRENT SCHOOL
(N = 561)

Category	NUMBER OF YEARS AS PRINCIPAL OF ANY SCHOOL			NUMBER OF YEARS AS PRINCIPAL OF CURRENT SCHOOL		
	Range	Frequency	Percentage Frequency	Range	Frequency	Percentage Frequency
1	1 yr.	82	14.62	1 yr.	160	28.52
2	2-3	109	19.43	2-3	160	28.52
3	4-6	110	19.61	4-6	106	18.89
4	7-9	66	11.76	7-9	64	11.41
5	10-12	34	6.06	10-12	23	4.10
6	13-15	45	8.02	13-15	19	3.39
7	16-18	32	5.70	16-18	6	1.07
8	19-21	14	2.50	19-21	3	.53
9	22 or more	69	12.30	22 or more	20	3.57
	Mean	8.52		Mean	4.85	

TABLE IX

FREQUENCY DISTRIBUTION OF NUMBER OF YEARS
OF UNIVERSITY TRAINING CREDITED TO
PRINCIPALS OF SCHOOLS OF SAMPLE

Category	YEARS OF UNIVERSITY TRAINING		
	Range	Frequency	Percentage Frequency
1	1 year	29	5.17
2	2	136	24.24
3	3	65	11.59
4	4	180	32.09
5	5	135	24.06
6	6 or more	16	2.85
	Mean	3.54	

TABLE X
 FREQUENCY DISTRIBUTION OF UNIVERSITY
 DEGREE(S) HELD BY PRINCIPALS OF
 SCHOOLS IN SAMPLE
 (N = 561)

Category	DEGREES HELD BY PRINCIPALS		
	Range	Frequency	Percentage Frequency
1	No degree	232	41.35
2	B.Ed.	129	22.99
3	B.A.	44	7.84
4	M.Ed.	9	1.60
5	M.A.	3	.53
6	B.Ed. M.A.	1	.18
7	B.A. M.Ed.	10	.18
8	B.A., B.Ed.	128	24.60
9	Other	5	.89

TABLE XI

INTERCORRELATION MATRIX OF THE AGE, TOTAL EXPERIENCE AS PRINCIPAL,
TOTAL EXPERIENCE AS PRINCIPAL OF THIS SCHOOL, YEARS OF UNIVERSITY
TRAINING, AND DEGREES OF PRINCIPAL OF SCHOOLS IN SAMPLE
(N = 561)

Variable	1	2	3	4	5
1. Age of principal	1.000	0.664 ^a	0.477 ^a	0.153 ^a	0.186 ^a
2. Total principal experience		1.000	0.674 ^a	0.355 ^a	0.316 ^a
3. Experience as principal of this school			1.000	0.143 ^a	0.109 ^a
4. Years of University training				1.000	0.778 ^a
5. Degree(s) held by principal					1.000

^aSignificant at the .01 level

The age of the principal is significantly correlated in a positive direction with the principal's total experience as principal of any school, of this current school and the years of university training and degree(s) held by the principal.

Significant correlation in a positive direction exists between the principal's total experience as a principal and the principal's experience as principal of this current school, the principal's years of university training and the degree(s) held by the principal.

The experience of the principal as principal of this current school is significantly correlated in a positive direction with both the principal's years of university training and degree(s) held.

There was a significant correlation in a positive direction between the principal's years of university education completed and the university degree(s) held by the principal.

The six variables dealing with the characteristics of the principals of schools containing Division II are all intercorrelated at the .01 level of significance. The interpretations made as a result of subsequent analysis of these independent variables should take into account the relationships existing among them.

III. SUMMARY OF CHAPTER IV

This chapter describes the characteristics of the Division II schools and the principals of these schools by presenting the range, frequency, and percentage frequency of each of the variables as well as means, where applicable. The variables were interpreted as showing sufficient range to allow for the findings of any meaningful relationships between the variables and the adoption of the Division II Curriculum.

CHAPTER V

IDENTIFICATION OF ADOPTER SCHOOLS AND CALCULATION OF THE INDICES OF RELATIVE ADVANTAGE, COMPLEXITY AND COMPATIBILITY

In order to determine the relationship between the adoption of the Division II Curriculum within a school and the principals' perception of the characteristics of the program, a measure of adoption, and indices of relative advantage, complexity and compatibility were obtained.

Schools were classified as either adopter schools, A_1 , or non-adopter schools, A_2 , according to the extent of the adoption of the Division II Curriculum within a specific school.

I. IDENTIFICATION OF ADOPTER AND NON-ADOPTER SCHOOLS

The Adopter School, A_1

A school was identified as an adopter school upon the fulfillment of two criteria: (1) that Division II pupils within the school are promoted upon the basis of units of work completed instead of grades in all or two-thirds of the Division II classrooms within a school; and (2) that there be a minimum of six groups of pupils organized within each classroom for the purpose of the instruction of arithmetic, reading, language and spelling.

The criterion points were selected to compensate for the length of time, two years, in which the Division II Curriculum has been authorized.

As a result it would be expected that at least at a minimum the program would be implemented in the first two years of Division II, making the first determinant, the promotion of pupils by units of work completed, include both the dimensions "in all classrooms" and "in two-thirds of the Division II classrooms."

Six groups per classroom were selected as the minimum number of pupil groups organized for the instruction of the skill subjects of arithmetic, reading, spelling and language to identify adopter schools. This figure was considered adequate in view of the two-year period the program has been authorized, although the Department of Education implies that there should be three groups in each of the four skill subject areas making a total of twelve groups in all.

The Non-Adopter School, A₂

A school is considered to be a non-adopter school upon the basis of either of two criteria: (1) that pupils within Division II classrooms are promoted upon the basis of units completed instead of grades in less than two-thirds of the classrooms; and (2) that there are less than six groups within each classroom for the purpose of the instruction of arithmetic, reading, language and spelling.

II. INDICES OF RELATIVE ADVANTAGE, COMPLEXITY AND COMPATIBILITY

Index of Principals' Perception of Relative Advantage (RA)

Based upon the principals' replies to twelve questions designed to determine the principals' perception of the characteristics of the relative

advantage of the Division II Curriculum when compared with the former Grade 4, 5, and 6 Curriculums an Index of Relative Advantage (RA) was numerically determined by assigning the value 5 to each answer the principal perceives to be "decidedly more advantageous," 4 for each "more advantageous" answer, 3 for each answer of "no different in advantage," 2 for an answer of "less advantageous" and 1 for each answer of "decidedly less advantageous." The total numerical values of the principals' replies to the twelve questions constitute the Relative Advantage Index (RA).

Index of Principals' Perception of Complexity (CX)

The Complexity Index (CX) of the principals' perception of the complexity of the Division II Curriculum was determined by the assignment of numerical value of 1 for each "decidedly more difficult" reply, 2 to each "more difficult" reply, 3 to each "no different in difficulty" reply, 4 to each "less difficult" reply and 5 to each "decidedly less difficult" reply that a principal answered on the twelve questions designed to determine the principals' perception of the complexity of the Division II Curriculum as compared to the former Grade 4, 5, and 6 Curriculums. The total numerical values of the principals' replies constitute the Complexity Index (CX).

Index of the Principals' Perception of Compatibility (CT)

The Compatibility Index (CT) was determined by the assignment of numerical values to each of the principals' replies to the twelve questions

designed to determine the principals' perception of the compatibility of the Division II Curriculum when compared to the former Grade 4, 5, and 6 Curriculums. The numerical value 1 was assigned to each principals' reply of "decidedly more different," 2 for each reply of "more different," 3 for each reply of "some different," 4 for each "slightly different" reply and 5 for each reply of "no different." The total numerical values of the principals' replies to the twelve questions constitute the Compatibility Index (CT).

III. THE DETERMINATION OF ADOPTER SCHOOLS

The determination of the adoption of the Division II Curriculum was based upon two criteria: (1) the proportion of Division II classrooms within a school within which pupils are promoted on the basis of units of work completed; and (2) a minimum of six instructional groups in the four skill subjects in the Division II classrooms of a school.

Table XII presents a frequency distribution of the proportion of Division II classrooms within a school within which pupils are promoted on the basis of units of work completed. Within the 561 sample schools pupils are promoted on the basis of units of work completed in "all classrooms" in 320 schools and in "two-thirds of the classrooms" in 52 schools. Therefore 372 schools or 66.31 per cent of the sample schools met the first criteria for the determination of the adoption of the Division II Curriculum.

Table XIII presents a frequency distribution of the mean number of instructional groups in the four skill subjects in the sample schools.

TABLE XII

FREQUENCY DISTRIBUTION OF THE PROPORTION OF DIVISION II
CLASSROOMS WITHIN WHICH STUDENTS ARE PROMOTED ON
THE BASIS OF UNITS COMPLETED RATHER THAN
GRADES IN SCHOOLS OF SAMPLE
(N = 561)

Category	PROPORTION OF CLASSROOMS WITHIN WHICH STUDENTS ARE PROMOTED BASED UPON UNITS COMPLETED		
	Range	Frequency	Percentage Frequency
5	All Classrooms	320	57.04
4	Two-thirds of Class- rooms	52	9.27
3	One-half of Classrooms	24	4.28
2	One-third of Class- rooms	44	7.84
1	None of Classrooms	120	21.39

TABLE XIII

FREQUENCY DISTRIBUTION OF THE MEAN NUMBER OF GROUPS
PER CLASSROOM OF SCHOOLS IN THE SAMPLE IN THE
SUBJECTS: ARITHMETIC, READING, LANGUAGE
AND SPELLING
(N = 561)

Category	Range	Frequency	Percentage Frequency
1	3.0-3.9 groups	2	.36
2	4.0-4.9	130	23.17
3	5.0-5.9	113	20.14
4	6.0-6.9	113	20.14
5	7.0-7.9	62	11.05
6	8.0-8.9	66	11.76
7	9.0-9.9	31	5.53
8	10.0-10.9	22	3.92
9	11.0-11.9	6	1.07
10	12.0 and over	16	2.85
Mean		6.47	

Schools with a mean number of six or more groups per classroom numbered 316 or 56.33 per cent of the sample and as a result met the second criteria for the determination of the adoption of the Division II Curriculum. The mean number of instructional groups per classroom for the schools in the same was 6.47.

Table XIV lists the results of the determination of adopter and non-adopter schools. Two hundred thirty-five adopter schools representing 41.89 per cent of the same and three hundred twenty-six non-adopter schools representing 58.11 per cent of the sample were identified. Therefore, at the end of a two-year authorization period less than one-half of Saskatchewan schools containing Division II had adopted the Division II Curriculum.

Table XV shows a frequency distribution of the mean number of groups per classroom in the four skills subjects in the adopter and non-adopter schools. The mean number of groups in the four subjects in the adopter schools was 8.14 and in the non-adopter schools 5.34 groups per classroom. Only 11 of the 561 sample schools or 1.96 per cent have completely adopted the program having 12 or more groups per classroom in the four subjects.

Of the 326 non-adopter schools, 81 of the schools have six or more groups per classroom in the four skill subjects but are classed as non-adopter schools as a result of the "pupil promotion by unit completed" dimension not being fulfilled.

Table XVI presents the mean number of groups in each of the 1992 Division II classrooms. Reading with 1.77 groups per classroom exhibits the largest mean number of groups followed by arithmetic 1.75, spelling 1.52

TABLE XIV

FREQUENCY DISTRIBUTION OF THE NUMBER OF SCHOOLS
 IN THE SAMPLE WHICH HAVE OR HAVE NOT
 ADOPTED THE DIVISION II CURRICULUM
 (N = 561)

Category	NUMBER OF ADOPTER AND NON-ADOPTER SCHOOLS	
	Frequency	Percentage Frequency
Adopter Schools	235	41.889
Non-Adopter Schools	326	58.110

TABLE XV

FREQUENCY DISTRIBUTION OF THE MEAN NUMBER OF GROUPS PER CLASSROOM
IN THE SKILL SUBJECTS IN ADOPTER AND NON-ADOPTER SCHOOLS
IN THE SAMPLE

Category	Range	ADOPTER SCHOOLS		NON-ADOPTER SCHOOLS	
		Frequency	Percent Frequency Adopter Schools (235)	Percent Frequency Non-Adopter Schools (326)	Percent Frequency Entire Sample (561)
1	3.0-3.9 groups			2	.61
2	4.0-4.9			130	39.88
3	5.0-5.9			113	34.66
4	6.0-6.9	75	31.91	38 ^a	11.66
5	7.0-7.9	48	20.43	14 ^a	4.29
6	8.0-8.9	51	21.70	15 ^a	4.60
7	9.0-9.9	27	11.49	4 ^a	1.23
8	10.0-10.9	16	6.81	6 ^a	1.84
9	11.0-11.9	6	2.55		
10	12.0 and above	12	5.11	4 ^a	1.23
Mean		8.14		5.34	

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^aClassified as non-adopter schools, pupil promotion by unit completed dimension not fulfilled.

TABLE XVI

THE NUMBER OF PUPIL INSTRUCTIONAL GROUPS
IN DIVISION II CLASSROOMS IN THE
SUBJECTS: ARITHMETIC, READING,
LANGUAGE AND SPELLING
(N = 1992)

Subject	NUMBER OF INSTRUCTIONAL GROUPS IN SKILL SUBJECTS	
	Total Number of Groups	Mean number of groups per classroom
Arithmetic	3504	1.76
Reading	3543	1.78
Language	2909	1.46
Spelling	3034	1.52

and language 1.46. The results so shown do not approach the implied number of three groups per classroom, with reading, arithmetic and spelling exhibiting only slightly more than one-half of the total.

Table XVII shows the results of the determination of adopter and non-adopter schools by location. City schools exhibited the largest proportion of adopter schools by location with 86 or 51.50 per cent of the total of 167 city schools designated as adopter schools. Of the 217 town schools only 84 or 38.71 per cent were classified as adopter schools, and of the 177 rural schools 64 or 36.16 per cent were adopter schools.

IV. DETERMINATION OF INDICES OF RELATIVE ADVANTAGE, COMPLEXITY AND COMPATIBILITY

Table XVIII presents the mean index of relative advantage, complexity and compatibility as perceived by principals of the entire sample, adopter and non-adopter schools. Principals of adopter schools perceived that the Division II Curriculum when compared with the former Grade 4, 5 and 6 Curriculums had a higher relative advantage and a lower degree of complexity than principals of non-adopter schools. This agrees with the assumptions of Rogers,¹ Carlson² and Holdaway.³

¹Everett M. Rogers, Diffusion of Innovations (New York: The Free Press of Glencoe, 1962), pp. 125, 130.

²Richard O. Carlson, Adoption of Educational Innovations (Eugene, Oregon: The Centre for the Advanced Study of Educational Administration, 1965), p. 71.

³E. A. Holdaway, "Five Characteristics of Innovations," (unpublished manuscript, The University of Alberta, Edmonton, 1967).

TABLE XVII

FREQUENCY DISTRIBUTION OF ADOPTER AND
NON-ADOPTER SCHOOLS BY LOCATION
(N = 561)

Location	<u>Adopter Schools</u>		<u>Non-Adopter Schools</u>	
	Frequency	Percentage Frequency	Frequency	Percentage Frequency
Rural (177)	64	36.16	113	63.84
Town (217)	84	38.71	133	61.29
City (167)	86	51.50	81	48.50

TABLE XVIII

MEAN INDEX OF THE PRINCIPALS' PERCEPTION OF THE
RELATIVE ADVANTAGE, COMPLEXITY AND
COMPATIBILITY OF THE DIVISION II
CURRICULUM IN ADOPTER AND
NON-ADOPTER SCHOOLS

Characteristic	Adopter School Mean	Non-adopter School Mean
Relative Advantage	43.14	42.19
Complexity	36.11	35.24
Compatibility	28.77	30.72

Principals of non-adopter schools perceived the Division II Curriculum as possessing a higher degree of compatibility than principals of adopter schools. This finding on the compatibility index is in direct opposition to Carlson's⁴ and Holdaway's⁵ assumption that high compatibility is advantageous to the diffusion of an innovation. Rogers' contention that "Compatibility of an innovation with a preceding idea that is evaluated unfavorably may retard its rate of adoption,"⁶ is, as well, in direct contrast to the findings of this study.

V. SUMMARY OF CHAPTER V

Sample schools were designated adopter (A_1) or non-adopter (A_2) schools upon the basis of two criteria: (1) the proportion of Division II classrooms within a school in which pupils are promoted upon the basis of units completed; and (2) upon the number of groups organized within Division II classrooms for the instruction of the skill subjects.

Two hundred thirty-five schools were designated as adopter schools and three hundred twenty-six non-adopter schools on the basis of the criteria values selected.

Indices of Relative Advantage (RA), Complexity (CX) and Compatibility (CT) were determined by the weighting of principals' responses to twelve questions designed to obtain the principals' perception of each variable.

⁴Carlson, op. cit., p. 71.

⁵Holdaway, op. cit.

⁶Rogers, op. cit., p. 127.

Principals of adopter schools perceived a higher index of relative advantage, and lower index of complexity than principals of non-adopter schools. Principals of non-adopter schools perceived a lower index of compatibility than principals of adopter schools which was a finding opposed to the assumptions made by previous writers on the subject.

CHAPTER VI

ANALYSIS OF DATA

The purpose of this Chapter is to present the results of the analysis that compares the adoption of the Division II Curriculum to: (1) the Division II principals' perception of the relative advantage (RA), the complexity (CX) and the compatibility (CT) of the Division II Curriculum in comparison to the former Grade 4, 5, and 6 Curriculums; and (2) selected characteristics of Division II principals and schools.

Because of the dichotomous nature of the dependent variables, point biserial correlations and t-tests were used to determine whether significant relationship exists between the adoption of the Division II Curriculum and the principals' perception of three characteristics of the innovation. Point biserial correlation and phi correlation, t-test and Chi square were employed to determine the relationship between the adoption of the innovation and ten characteristics--six characteristics of Division II principals and four characteristics of Division II schools.

The discriminate function was employed to determine the relative effectiveness of the independent variables of the major hypotheses as well as the independent variables of the related hypothesis used in the prediction of the adoption of the Division II Curriculum.

I. TESTING OF HYPOTHESES

Major Hypotheses

Hypothesis 1. "Principals of schools containing Division II tend to adopt more quickly innovations which they perceive to have a high relative advantage."

As presented in Table XVIII the two hundred and thirty-five principals of schools within which the Division II Curriculum had been adopted had a mean RA index of 43.14 as compared with 42.19 for principals of non-adopter schools. The point biserial correlation coefficient of 0.074 was significant at the 0.05 level of probability for a correlation where direction was predicted (Table XIX). The t-value of 1.78 was significant at the 0.05 level of probability as shown in Table XX. Therefore Hypothesis 1 was accepted with respect to the adoption of the Division II Curriculum.

As a result, it can be concluded that when principals of schools perceive a high relative advantage in an innovation, such as the Division II Curriculum, they will adopt the innovation more rapidly.

Hypothesis 2. "Principals of schools containing Division II tend to adopt more quickly innovations which they perceive to have a low degree of complexity."

The mean CX index of principals of adopter schools was 35.11 compared with a mean CX index of 35.24 for principals of non-adopter schools as shown in Table XVIII. The point biserial correlation of 0.067 had a probability of 0.056 which was not significant at the 0.05 level (Table XIX). The difference between means of adopter and non-adopter schools on the CX variable had a probability of occurring as a result of chance at the 0.056 level as shown in the t-test (Table XX). While not significant at the 0.05 probability level, the resulting probability approached significance and was indicative of a trend.

Therefore, Hypothesis 2 was rejected and Null Hypothesis 2, "There is no significant correlation between the adoption of the Division II Curriculum

TABLE XIX

INTERCORRELATION^a MATRIX OF THE INDICES OF RELATIVE
ADVANTAGE, COMPLEXITY, AND COMPATIBILITY AND
THE ADOPTION OF THE DIVISION II
CURRICULUM
(N = 561)

Variable	1	2	3	4 ^b	Variable
1. Relative Advantage	1.000	0.378 ^c	-0.194 ^c	0.074 ^d	1
2. Complexity		1.000	0.167 ^c	0.067	2
3. Compatibility			1.000	-0.120 ^c	3
4 Adoption of the Division II Curriculum				1.000	4

^aCorrelations are product-moment coefficients unless otherwise specified.

^bPoint biserial correlation.

^cSignificant at the 0.01 level.) } For one-tailed tests concerned with Hypotheses
1-3, and correlations for which direction was
^dSignificant at the .05 level. } predicted.

TABLE XX

COMPARISON OF MEANS OF ADOPTER AND NON-ADOPTER SCHOOLS BY PRINCIPALS' PERCEPTION
OF THE RELATIVE ADVANTAGE, COMPLEXITY AND COMPATIBILITY OF THE DIVISION II
CURRICULUM

Variable	<u>Adopter Schools</u>			<u>Non-Adopter Schools</u>			Probability level
	N	Mean	S.D.	N	Mean	S.D.	
Relative Advantage	235	43.14	5.98	326	42.19	6.58	1.78 ^a 0.0382 ^{ac}
Complexity	235	36.11	6.26	326	35.24	6.48	1.59 ^a 0.0562 ^a
Compatibility	235	28.77	7.30	326	30.72	8.41	2.93 ^a 0.0019 ^{ab}

^aCorrected by the Welch approximation for lack of homogeneity of variance.

^bSignificant at the .01 level.

^cSignificant at the .05 level.

in a school and the perception of the complexity of the Division II Curriculum held by the principal of that school," was accepted.

Hypothesis 3. "Principals of schools containing Division II tend to adopt more quickly innovations which they perceive to have a high degree of compatibility."

The principals of adopter schools had a mean CT index of 28.77 as compared with a mean CT index of 30.72 for principals of non-adopter schools as shown in Table XVIII. The point-biserial negative correlation coefficient of 0.120 was significant at the 0.01 level of probability (Table XIX). The difference between means of adopter and non-adopter principals' perception of the compatibility of the Division II Curriculum had the probability of occurring as a result of chance at the 0.0019 level of probability which is significant (Table XX). The significant negative correlation resulted in Hypothesis 3 being rejected due to the unfulfillment of the predicted direction.

One may conclude that, on the basis of the significant negative correlation, principals of schools tend to adopt more rapidly innovations which they perceive to have a low degree of compatibility.

This finding is in direct opposition to the assumptions of Carlson,¹ Rogers,² and Holdaway³ as outlined in Chapter V (Supra, p. 77). One can

¹Richard O. Carlson, Adoption of Educational Innovations, (Eugene, Oregon: The Centre for the Advanced Study of Educational Administration, 1965), p. 71.

²Everett M. Rogers, Diffusion of Innovations, (New York: The Free Press of Glencoe, 1962), p. 127.

³E. A. Holdaway, "Five Characteristics of Innovations," (unpublished manuscript, The University of Alberta, Edmonton, 1967).

propose two suppositions to explain the nonconcurrence between the results of this finding and the assumption of Carlson, Rogers, and Holdaway that principals tend to adopt more quickly innovations which they perceive to have a high degree of compatibility. The first supposition is based upon Rogers' statement, "Obviously, however, if a new idea were completely congruent with existing practice there would be no innovation."⁴ Non-adopter principals, in perceiving the Division II Curriculum as being more highly compatible with existing practice than the adopter principals, did not deem it desirable to expend the effort required of them to implement the innovation for a program which possessed qualities differing so little from those in the program they were currently using.

It may also be conjectured that non-adopter principals perceived a higher degree of compatibility due to a lack of knowledge concerning the intricacies of the Division II Curriculum than did adopter principals who actually implemented and worked with the program.

The Discriminate Function

The discriminate function was employed to determine which of the independent variables concerning the principals' perceptions of the characteristics of the Division II Curriculum: (1) best predicted the adoption of the curriculum, (2) accounted for the greatest amount of variance in the dependent variables, and (3) yielded maximum separation in the two groups. The relative effectiveness of the variables in predicting adoption was determined by noting the contribution of each

⁴Rogers, loc. cit.

variable to the numerical values of the difference in means. This process paralleled the summing of squares for regression in an analysis dealing with numerical criterion, as outlined by Wert, Neidt and Ahmann.⁵

The scale weights resulting from Multiple Discriminant Analysis show that the largest contribution to a separation between the adoption or non-adoption of the Division II Curriculum were made by the principals' perception of the variables compatibility and complexity. The principals' perception of the relative advantage characteristic contributed little to the separation.

The Wilks-lambda criterion for the three variables was 0.978 which is significant at the 0.005 level.⁶ Thus the chance of producing variable differences this large by chance was five in one thousand.

Related Hypotheses--Principals

In addition to the three major hypotheses this study attempted to determine whether significant relationships existed between the adoption

⁵James E. Wert, Charles O. Neidt and J. Stanley Ahmann. Statistical Methods in Educational Psychological Research (New York: Appleton-Century-Crofts, Inc., 1954), p. 267.

⁶William W. Cooley, Paul R. Lohnes. Multivariate Procedures for the Behavioral Sciences, (New York: John Wiley and Sons, Inc., 1962). p. 119.

TABLE XXI

RESULTS OF MULTIPLE DISCRIMINANT ANALYSIS BETWEEN
THE ADOPTION OF THE DIVISION II CURRICULUM AND THE
PRINCIPALS' PERCEPTION OF THE RELATIVE ADVANTAGE,
COMPLEXITY AND COMPATIBILITY

Order of entry in discriminate analysis	Variable	Normalized Weights	Scaled Weights
1	Compatibility	0.779	146.89
2	Complexity	0.613	-92.82
3	Relative Advantage	0.132	-19.81
Wilks lambda 0.978 F = 0.426 Probability 0.005			

of the Division II Curriculum and seven independent variables concerning the characteristics of Division II principals and four independent variables concerning the characteristics of the Division II schools.

Hypothesis 4.1. "Adopter principals do not differ significantly from non-adopter principals in the total years of experience as principals."

The point biserial correlation coefficient between the total number of years as a principal and the adoption of the Division II Curriculum was 0.35 which was not significant at the 0.05 level (Table XXII). The t-value was not significant at the 0.05 level (Table XXIII). Therefore Null Hypothesis 4.1 that adopter principals do not differ significantly from non-adopter principals on the total years' experience as a principal was accepted.

Hypothesis 4.2. "Adopter principals do not differ significantly from non-adopter principals in the years of experience as principal of the present school."

The point biserial correlation coefficient between the number of years of experience as principal of the present school was 0.005 which was not significant at the 0.05 level as shown in Table XXII. There was also no significant correlation at the 0.05 probability level with the t-test (Table XXIII). Therefore Null Hypothesis 4.2 was accepted.

This finding was in agreement with that of Holdaway who found no significant correlation between the tenure of a principal in the present school in respect to (1) the adoption of innovations, or (2) the extent

TABLE XXII

INTERCORRELATION^a MATRIX OF THE RELATED INDEPENDENT VARIABLES AND
THE ADOPTION OF THE DIVISION II CURRICULUM
(N = 561)

Variable	1	2	3 ^b	4	5	6	Variable
1. Years of experience as principal	1.000	0.674 ^d	0.074	0.663 ^d	0.355 ^d	0.316 ^d	1
2. Years of experience as principal of present school		1.000	-0.076	0.477 ^d	0.143 ^d	0.109 ^d	2
3. Sex of principal			1.000	0.173 ^d	-0.203 ^d	-0.115 ^d	3
4. Age of principal				1.000	0.158 ^d	0.186 ^d	4
5. Years of university training					1.000	0.778 ^d	5
6. Degree held						1.000	6
7. Grades contained in school							
8. Number of full-time teachers							
9. Number of Division II classrooms							
10. Location of school							
11. Adoption of Division II Curriculum							

^aCorrelations are product moment coefficients unless otherwise stated.

^bPoint biserial coefficients.

^dSignificant at .01 level

^cPhi coefficient

^eSignificant at .05 level

TABLE XXII (Continued)

Variable	7	8	9	10	11 ^b	Variable
1. Years of experience as principal	0.272 ^d	0.351 ^d	0.168 ^d	0.086 ^e	0.035	1
2. Years of experience as principal of present school	0.151 ^d	0.220 ^d	0.128 ^d	0.019	0.005	2
3. Sex of principal	-0.149 ^d	0.228 ^d	0.238 ^d	0.145 ^d	0.094 ^{ce}	3
4. Age of principal	0.093 ^e	0.202 ^d	0.127 ^d	0.051	0.009	4
5. Years of university training	0.301 ^d	0.562 ^d	0.346 ^d	0.373 ^d	0.174 ^d	5
6. Degree held	0.238 ^d	0.419 ^d	0.276 ^d	0.281 ^d	0.155 ^d	6
7. Grades contained in school	1.000	0.282 ^d	-0.104 ^e	-0.307 ^d	0.054	7
8. Number of full-time teachers		1.000	0.768 ^d	0.356 ^d	0.176 ^d	8
9. Number of Division II classrooms			1.000	0.437 ^d	0.106 ^e	9
10. Location of school				1.000	0.125 ^d	10
11. Adoption of Division II Curriculum					1.000	11

^aCorrelations are product moment coefficients unless otherwise stated.^bPoint biserial coefficients.^cPhi coefficient.^dSignificant at .01 level.^eSignificant at .05 level.

TABLE XXIII

COMPARISON OF MEANS OF ADOPTER AND NON-ADOPTER
PRINCIPALS BY CHARACTERISTICS

Variable	ADOPTER PRINCIPAL			NON-ADOPTER PRINCIPAL			t	Level of Probability
	N	Mean	S.D.	N	Mean	S.D.		
Years experience as principals	235	4.17	2.56	326	4.01	2.59	0.839	0.201 ^c
Years experience as principal this school	235	2.74	1.93	326	2.72	1.84	0.114	0.455 ^c
Sex of principal	235	1.15	0.36	326	1.22	0.42	2.228	0.013 ^b
Age of principal	235	4.91	2.21	326	4.96	2.30	0.217	0.415 ^c
Years of univer- sity training	235	3.81	1.30	326	3.35	1.27	4.174	0.000 ^a
Degree held	235	3.76	3.02	326	2.87	2.68	3.699	0.000 ^a

^aSignificant at the .01 level.^bSignificant at the .05 level.^cCorrected by the Welch approximation for lack of homogeneity of variance.

of the adoption of innovations.⁷ Carlson, in both the Allegheny County and West Virginia studies, found that the tenure of a superintendent does not correlate significantly with the rate of adoption of innovations.⁸ Hemphill, in a study of the adoption of automatic data processing and the tenure of superintendents in their present positions found no significance.⁹

Hypothesis 4.3. "Adopter principals do not differ significantly from non-adopter principals regarding the sex of the principal."

As shown in Table XXII a phi correlation coefficient of 0.094 was significant at the 0.05 level, existed between the adoption of the Division II Curriculum and the sex of the principal. The chi square value of 4.47 was also significant at the 0.05 level of probability (Table XXIV). Since the sex variable was dichotomous--the principal being male or not--Null Hypothesis 4.3 was rejected as a result of the significant correlation coefficient. It could be concluded that male principals adopt innovations, such as the Division II Curriculum, more rapidly than female principals.

Hypothesis 4.4. "Adopter principals do not differ significantly from non-adopter principals in respect to age of the principal."

⁷Edward Allan Holdaway. An Analysis of Some Factors Affecting Innovation in Elementary Schools, (unpublished Master's thesis, The University of Alberta, Edmonton, 1966), pp. 83-84.

⁸Carlson, op. cit., pp. 53-57.

⁹H. David Hemphill, "A Survey and Analysis of the Adoption of Automatic Data Processing in Canadian School Districts," (unpublished Master's thesis, The University of Alberta, Edmonton, 1966), p. 77.

TABLE XXIV

CHI SQUARE TEST FOR INDEPENDENCE OF ADOPTION
OR NON-ADOPTION OF THE DIVISION II CURRICULUM AND THE
SEX OF THE PRINCIPAL

Sex	Adopter Principals	Non-Adopter Principals	Total
Male	200	253	453
Female	35	73	108
Total	235	326	
Chi-square = 4.47 (significant at the 0.05 level)			

The point biserial correlation between the age of the principal and the adoption of the Division II Curriculum of -0.009 was not significant at the 0.05 level of probability (Table XXII). The t-value was also not significant at the 0.05 level (Table XXIII). Therefore, Null Hypothesis 4.4 stating that no significance exists between the age of the principal and the adoption of the Division II Curriculum was accepted.

Although Holdaway found a significant negative correlation between the age of a principal and the extent of the adoption of innovations,¹⁰ the findings of this study did not support his finding. Carlson¹¹ and Hemphill¹² did not find age to be a significant factor in the adoption of innovations.

Hypothesis 4.5. "Adopter principals do not differ significantly from non-adopter principals in respect to the years of tertiary training completed."

As shown in Table XXII a point biserial correlation coefficient of 0.174, significant at the 0.05 level, was found to exist between the adoption of the Division II Curriculum and the years of tertiary training of the principal. The t-value was also significant at the 0.05 level (Table XXIII). Null Hypothesis 4.5 was therefore rejected as a result of the significant positive correlation for the years of tertiary training of the principal. It could be concluded that innovations, such as the

¹⁰Holdaway, op. cit., p. 81.

¹¹Carlson, loc. cit.

¹²Hemphill, loc. cit.

the Division II Curriculum, were adopted more rapidly by principals who had relatively longer periods of tertiary training.

The significance of the correlation of the adoption of innovations and the number of years of tertiary education of the principal was consistent with the findings of Carlson on the Allegheny County study of the rate of adoption of innovations and the amount of education of the superintendent.¹³ This finding was not substantiated by either Holdaway¹⁴ or Marion¹⁵ in their studies of innovation and the amount of education of the principal.

Hypothesis 4.6. "Adopter principals do not differ significantly from non-adopter principals in respect to the number of university degrees held."

The correlation coefficient of 0.155 between the adoption of the Division II Curriculum and the degree(s) held by the principal was significant at the 0.05 level of probability as shown in Table XXII. The t-value was also significant at this level (Table XXIII). The significant positive correlation existing between the number of degrees held by the principal and the adoption of the Division II Curriculum caused Null Hypothesis 4.6 to be rejected. It was concluded that the

¹³Carlson, loc. cit.

¹⁴Holdaway, op. cit., p. 73.

¹⁵Guy Bertrand Marion, "A Study of Selected Factors Related to the Innovativeness of Elementary School Principals," (unpublished Doctoral dissertation, The University of Alberta, Edmonton, Alberta, 1966), p. 151.

greater the number of university degrees held by the principal the more rapidly would the principal implement innovations.

Hypothesis 4.7. "Adopter principals do not differ significantly from non-adopter principals in relation to amount of graduate work completed in educational administration."

This hypothesis could not be tested because of the misinterpretation by principals in the sample of the term "graduate work." A relatively large number of principals with no degree stated that they had completed some graduate study in educational administration, which invalidated responses to the question. Therefore Hypothesis 4.7 was not included in the study.

Related Hypotheses--Schools

Hypothesis 5.1. "Adopter schools do not differ significantly from non-adopter schools on the grades contained in the school."

The correlation coefficient between the grades contained in a school and the adoption of the Division II Curriculum was 0.054 which was not significant at the 0.05 level (Table XXII). The t-value, as shown in Table XXV, was not significant at this level. Therefore Null Hypothesis 5.1 of "no significant correlation between the adoption of the Division II Curriculum and the Grades contained in the school" was accepted.

Hypothesis 5.2. "Adopter schools do not differ significantly from non-adopter schools on the number of full-time teachers in the school."

The point biserial correlation coefficient between the number of full-time teachers in the school and the adoption of the Division II

TABLE XXV

COMPARISON OF MEANS OF ADOPTER AND NON-ADOPTER
SCHOOLS BY CHARACTERISTICS

Variable	ADOPTER SCHOOL			NON-ADOPTER SCHOOL			t	Level of Probability
	N	Mean	S.D.	N	Mean	S.D.		
Grades in School	235	3.78	1.80	326	3.59	1.78	1.29	0.100 ^a
Number of full- time teachers	235	2.93	1.27	326	2.46	1.29	4.25	0.000 ^{ab}
Number of Division II classrooms	235	3.78	1.90	326	3.39	1.90	2.49	0.006 ^{ab}
Location of School	235	2.10	0.80	326	1.90	0.76	2.98	0.001 ^b

^aCorrected by the Welch approximation for lack of homogeneity of variance^bSignificant at the .01 level.

Curriculum was 0.176, significant at the 0.05 level as shown in Table XXII. The t-value (Table XXV) was significant at this level. As a result of the significant positive correlation coefficient for the number of full-time teachers employed in the school and the adoption of the Division II Curriculum, Null hypothesis 5.2 was rejected. It was concluded that the larger the number of teachers employed in a school the more quickly innovations, such as the Division II Curriculum, were adopted in the school.

Hypothesis 5.3. "Adopter schools do not differ significantly from non-adopter schools in respect to the number of Division II classrooms in the school."

The correlation coefficient of 0.106 obtained on this variable was significant at 0.05 level (Table XXII). The t-value as presented in Table XXV was also significant at this level. As a result of the significant positive correlation between the adoption of the Division II Curriculum and the number of Division II classrooms in a school, Null Hypothesis 5.3 was rejected. Therefore, it could be concluded that innovations, such as the Division II Curriculum, were implemented at a faster rate in schools containing a large number of classrooms within which the innovation was to be adopted.

Hypothesis 5.4. "Adopter schools do not differ significantly from non-adopter schools in respect to the location of the school."

The location variable ranged from areas of low concentration of population (rural areas), through towns, to areas of high concentration of population (cities). Therefore, this variable was considered to be continuous and suited to correlation and t-tests.

The positive point biserial correlation coefficient between the location of the school and the adoption of the Division II Curriculum was 0.125 which was significant at the 0.05 level (Table XXII). The corresponding t-value as shown in Table XXV was also significant at this level. Therefore Null Hypothesis 5.4 of "no significant correlation between the adoption of the Division II Curriculum and the location of the school" was rejected.

As a result it could be concluded that schools located in areas of high concentration of population implemented innovations, such as the Division II Curriculum, more rapidly than did areas of low population concentration.

The Discriminate Function

Discriminate function analysis was performed in order to determine appropriate weights for a series of variables yielding maximum separation between the dependent variable, adopter and non-adopter schools, and the independent variables associated with Division II principals and Division II schools. The results are shown in Table XXVI. The scaled weights resulting from the Multiple Discriminant Analysis show that the largest contribution of separation was made by the number of teachers in the school and the years of tertiary training of the principal. The variables of the number of Division II classrooms in the school, and the degrees held by the principal, which are ranked next in order of contribution, are closely related to the two main predictor variables.

The Wilks lambda criterion for the variables was 0.950, which is significant at the 0.002 level. Thus the chance of producing variable deferences this large was two in one thousand.

TABLE XXVI

RESULTS OF MULTIPLE DISCRIMINANT ANALYSIS
OF THE ADOPTION OF THE DIVISION II CURRICULUM
BY TEN SELECTED VARIABLES

Order of entry in discriminate analysis	Variable	Normalized Weights	Scaled Weights
1	Number of teachers	0.750	21.715
2	Principal's tertiary training	-0.273	-11.771
3	Number of Division II classrooms	0.122	8.146
4	Degree of Principal	0.391	7.193
5	Location of school	-0.473	-4.401
6	Sex of Principal	-0.070	-4.292
7	Experience of Principal	0.119	3.640
8	Age of Principal	-0.047	-2.547
9	Grades in school	-0.032	-1.359
10	Tenure of Principal	-0.008	-0.381
Wilks lambda 0.949		F = 0.290	Probability 0.002

II. SUMMARY OF CHAPTER VI

The principals' perception of the characteristics of the Division II Curriculum was found to be significant at the 0.05 level in a positive direction in relation to the relative advantage dimension. No significant relationship existed between the principals' perception of the complexity of the Division II Curriculum, but the probability of 0.056 was high enough to be indicative of a trend.

The principals' perception of the compatibility of the Division II Curriculum was negatively correlated to the adoption of the program at the 0.01 level of significance. This finding was in direct contrast to the assumption made by Rogers,¹⁶ Carlson¹⁷ and Holdaway¹⁸ that innovators adopt more quickly innovations which they perceive to have a high degree of compatibility.

The principals' perception of the compatibility and complexity of the innovation were determined to be the best predictors of the adoption of the Division II Curriculum in Saskatchewan schools.

Significant correlations were found between the adoption of the Division II Curriculum and the characteristics of Division II principals. The variables, the years of university training and the number of degrees held by the principal, were positively correlated at the 0.05 level;

¹⁶Rogers, loc. cit.

¹⁷Carlson, op. cit., p. 71.

¹⁸E. A. Holdaway, "Five Characteristics of Innovations," (unpublished manuscript, The University of Alberta, Edmonton, Alberta, 1967).

while the sex of principal variable was negatively correlated at the 0.05 level. No significant relationships were determined between the adoption of the Division II Curriculum and the principal's years of experience as a principal, tenure as principal of the present school, or the age of the principal.

Positive relationships significant at the 0.05 level were found between the adoption of the Division II Curriculum and the number of full-time teachers employed in the school, the number of Division II classrooms within the school, and the location of the school. No significant relationship was found between the grades contained in the school and the adoption of the program.

The number of teachers employed within a school and the number of years of tertiary training of the principal were determined to be the best predictors of the adoption of the Division II Curriculum in Saskatchewan Schools, as the result of Multiple Discriminant Analysis testing.

CHAPTER VII

DESCRIPTION OF THE SOURCES OF INFORMATION, AREAS OF DIFFICULTY, AND DIFFERENCES RELATIVE TO THE DIVISION II CURRICULUM AS PERCEIVED BY PRINCIPALS

This chapter was designed to present information relative to the implementation of the Division II Curriculum by determining: (1) the Division II principals' sources of information concerning the Division II Curriculum, (2) the areas of difficulty experienced or envisaged by Division II principals in implementing the Division II Curriculum, and (3) the principals' perception of the individual items of the questions designed to determine indices of relative advantage, complexity and compatibility. This chapter was presented to provide information relative to the implementation of the Division II Curriculum that was not included in the major and minor hypotheses.

I. PRINCIPALS' SOURCES OF INFORMATION

Sources of Information as Ranked by Sample Principals

Question 7, the first question referred to as Section III of the principals' Questionnaire (*supra*, 37) asked principals to rank order nine potential sources of information from which they received guidance and assistance relative to the implementation of the Division II Curriculum.

Source Ranked 1. As shown in Table XXVII, the principals of sample schools ranked the "Department of Education Publications" as the source from which they received the greatest amount of useful information

TABLE XXVII

MEDIANS OF SOURCES OF USEFUL INFORMATION CONCERNING
DIVISION II AS RANKED BY PRINCIPALS OF SCHOOLS
OF SAMPLE
(N = 561)

SOURCES OF USEFUL INFORMATION		
Rank	Source	Median
1	Department of Education Publications	1.44
2	Your Superintendent	3.26
3	Supervisors and consultants	4.18
4	Teachers of Division I	4.59
5	Teachers of Division II	4.85
6	S.T.F. Local meetings and Teachers' Conventions	5.78
7	Other principals	6.19
8	S.T.F. Publications	6.40
9	Other educational publications	6.82

concerning the Division II Curriculum. This information source consisted of three publications: (1) Elementary School Guide for Division II, (2) A Plan for the Reorganization of Instruction in Saskatchewan, and (3) Some Questions and Answers Relative to a Plan for the Reorganization of Instruction in Saskatchewan Schools. The first-named source, a handbook, was issued to each Division II teacher and principal, and the remaining two pamphlets were issued to each Division II school by the Department of Education.

Sources Ranked 2 and 3. Principals of Division II schools ranked as the second most valuable source of information the superintendent of their school unit or superintendency. The third-ranked source was consultants and supervisors employed by the school system concerned.

It would appear that, while basic information concerning the Division II Curriculum was obtained from Department of Education, the supervisory and consultative officials play an important role in disseminating relevant information to school principals. This ranking by principals of supervisory and consultative officials suggests that, in order to effect school organizational or curriculum changes, concentrated efforts should be made to acquaint, orientate, and educate the supervisory and consultative officials in the philosophy, methodology and content of proposed innovations. This would enable them to play an effective supportive role in disseminating information to school principals and teachers.

Sources Ranked 4 and 5. Teachers of Division I were ranked by principals as the fourth most valuable source of information concerning the Division II Curriculum. Division II Teachers were ranked fifth.

The Division I Curriculum (Elementary years 1, 2 and 3) was authorized by the Saskatchewan Department of Education in June, 1964, after the program had been run on an experimental basis in city school systems and some school units prior to this date. The Division II program is a continuation of the continuous progress, non-graded Division I program, and it could be expected Division I teachers would be valuable sources of information concerning the implementation of the intricacies of the program, such as student grouping, unit promotions, and student account. Teachers of Division II received the same basic information from Department of Education publications as the principals of Division II and as a result would be or prove to be a source of information to the principal.

Source Ranked 6. Saskatchewan Teachers' Federation Local Meetings and Teachers' Conventions were ranked sixth in importance by principals as sources of information concerning the Division II Curriculum. These two potential vehicles for the dissemination of information concerning school reorganization and curriculum changes were not considered effective by principals; but, as these are the only local-area professional organizations of teachers and principals, it would be expected that they play an important role. Future educational innovations should be discussed and considered both at the Teachers' Local Meetings and at Teachers' Conventions.

Source Ranked 7. Other principals were considered the seventh most valuable source of information regarding the Division II Curriculum. This ranking raises two suppositions, (1) principals as a group do not share information on educational matters, and (2) principals have not organized

themselves in a manner to permit the interchange of educational ideas and knowledge. It would appear that principals could profit by professional interaction and pooling of information. This could probably be accomplished through local administrator organizations set up for the purpose of educational research, experimentation, and dissemination of information.

Source Ranked 8. Saskatchewan Teachers' Federation publications, being ranked eighth by principals, were not considered a valuable source of information concerning the curriculum change. The Saskatchewan Teachers' Federation (S.T.F.) publishes two periodicals, "The Saskatchewan Bulletin," a monthly publication during the school year and the "Arbus," published five times a year. All teachers in the province of Saskatchewan are members of the S.T.F. and receive both these publications. No articles concerning the Division II Curriculum or its implementation have been produced in either of the two S.T.F. publications, with only minor references to the program having been made in the "Arbus." It would appear that the publications of the S.T.F. are potentially excellent sources of information concerning curriculum changes, such as the Division II Curriculum. It is hoped that this source of information is better utilized in future educational innovations.

Source Ranked 9. Educational publications, other than those of the Department of Education and the Saskatchewan Teachers' Federation, were ranked by the Division II principals as the least valuable source of information concerning the Division II Curriculum. Whether this ranking results from a lack of relevant publications, or whether principals do not read other educational publications becomes a moot point. It would,

however, seem that this potentially valuable source of educational information is not being exploited by Division II principals.

Source of Information as Ranked by Adopter Principals

As shown in Table XXVIII adopter principals rank the nine potential sources of information relative to the Division II Curriculum in the same order as the principals of the entire sample with the exception that Division II teachers are ranked fourth and Division I teachers, fifth. This change probably results from the necessity of interchange of information between principals and Division II teachers engaged in the actual implementation of the program.

Source of Information as Ranked by Non-Adopter Principals

Principals of non-adopter schools rank the potential sources of information concerning the Division II Curriculum in the same order as the principals of the entire sample (Table XXIX). The ranking of Division I teachers before Division II teachers, unlike the adopter principals' ranking, can be assumed to result from the non-adopter principal's need for source information concerning the Division II continuous progress, non-graded program prior to and during the program's implementation

II. AREAS OF DIFFICULTY EXPERIENCED OR ENVISAGED BY DIVISION II PRINCIPALS IN THE IMPLEMENTATION OF THE DIVISION II CURRICULUM

Areas of Difficulty as Ranked by Principals of Sample Schools

The principals of sample schools were requested in Question 8 of Section III (supra, p. 37) of the Principals' Questionnaire to rank

TABLE XXVIII

MEDIANS OF SOURCES OF USEFUL INFORMATION CONCERNING
DIVISION II AS RANKED BY PRINCIPALS OF
ADOPTER SCHOOLS
(N = 235)

SOURCES OF USEFUL INFORMATION		
Rank	Source	Median
1	Department of Education Publications	1.82
2	Your Superintendent	3.18
3	Supervisors and consultants	3.93
4	Teachers of Division II	4.49
5	Teachers of Division I	4.57
6	S.T.F. local meetings and Teachers' Conventions	6.09
7	Other principals	6.24
8	S.T.F. publications	6.57
9	Other educational publications	6.85

TABLE XXIX

MEDIANS OF SOURCES OF USEFUL INFORMATION CONCERNING
DIVISION II AS RANKED BY PRINCIPALS OF
NON-ADOPTER SCHOOLS
(N = 326)

SOURCES OF USEFUL INFORMATION		
Rank	Source	Median
1	Department of Education Publications	1.35
2	Your Superintendent	3.33
3	Supervisors and consultants	4.38
4	Teachers of Division I	4.60
5	Teachers of Division II	5.02
6	S.T.F. local meetings and Teachers' Conventions	5.48
7	Other principals	6.17
8	S.T.F. Publications	6.26
9	Other publications	6.80

order nine potential areas of difficulty experienced or envisaged in the implementation of the Division II Curriculum. The resulting ranking is presented in Table XXX.

Difficulty Ranked 1. Teacher reluctance to teach separate lessons to instructional groups within classrooms in the four skill subjects was ranked as the area of greatest difficulty experienced or envisaged by principals in the implementation of the Division II Curriculum. The concept of teaching separate lessons to groups within subject areas can be accepted as the greatest single change brought about by the Division II Curriculum. Under the former Grade 4, 5 and 6 Curriculum teachers generally taught classes as a single unit in all subjects. The reluctance of teachers to teach separate lessons to groups in the skill subjects identifies the principals' greatest barrier to successful implementation of the new curriculum.

Difficulty Ranked 2. The second-ranked difficulty, that of placing pupils within groups, results from the number of factors that must be considered in pupil placement. As outlined in the Department of Education pamphlet, "Some Questions and Answers Relative to a Plan For The Reorganization of Instruction in Saskatchewan Schools," the factors that must be considered are listed as:

- (a) Results of reading tests that accompany readers.
- (b) Work-study skills.
- (c) Unit-end test results.
- (d) Standardized achievement test results in arithmetic, language and reading.
- (e) Results of mental ability tests.

TABLE XXX

MEDIANS OF SOURCES OF AREAS OF DIFFICULTY EXPERIENCES
OR ENVISAGED AS RANKED BY PRINCIPALS OF SCHOOLS
OF SAMPLE
(N = 561)

AREAS OF DIFFICULTY EXPERIENCED OR ENVISAGED		
Rank	Difficulty	Median
1	Teacher reluctance to teach separate lessons to the groups in Arithmetic, Reading, Spelling and Language	3.89
2	Difficulty of placing pupils in groups	4.05
3	Insufficient source materials available for teachers to explain Division II	4.10
4	Accepting the philosophy that Division II is a better method of instructing students than the former Grade 4, 5 and 6 program	4.13
5	Lack of useful information concerning Division II	4.62
6	Teacher reluctance to group classes for instructional purposes	4.70
7	Lack of teacher enthusiasm	5.58
8	Lack of assistance from central office personnel	6.80
9	Parental resistance	8.08

(f) Teacher judgment.

(g) Social maturity.

(h) Attitude of parents.¹

Principals' difficulty in making grouping judgments appear to result from the complexity of criteria upon which the judgment is based.

Difficulty Ranked 3. The difficulty ranked third by principals was "insufficient source materials available for teachers to explain Division II." The three publications of the Department of Education, the "Division II Curriculum Guide" and two pamphlets (supra, p.104), were ranked by principals as the major source of information regarding the Division II Curriculum (Tables XXVII, XXVIII, XXIX); but, in the opinion of the principals, these publications are insufficient source materials to explain the program to Division II teachers. As a result of this ranking, it can be concluded that detailed, yet readily-understood, information regarding the implementation of curriculum changes must be provided to all teachers who are expected to participate in the change.

Difficulty Ranked 4. "Accepting the philosophy that Division II is a better method of instructing students than the former Grade 4; 5 and 6 programs" was ranked as fourth in order of difficulty by the complete sample of principals.

¹Government of Saskatchewan, Department of Education, "Some Questions and Answers Relative to a Plan for the Reorganization of Instruction in Saskatchewan Schools," (Regina, Saskatchewan: Queen's Printer, 1964), p. 5.

Mr. Janzen, Director of Curricula of the Saskatchewan Department of Education (Appendix A), states one criterion for distinguishing between those who have effectively adopted the Division II Curriculum as being, "(The) Belief in the 'continuous progress' concept for the individual."² It can be concluded, as a result of the relatively high ranking of this variable, that principals of the schools in the sample experience difficulty in accepting the "continuous progress" philosophy and do not see this program as being a better method of instruction. The Department of Education was apparently unsuccessful, to a degree, in gaining principals' acceptance of the overall value of the program at the Division II level.

Difficulty Ranked 5. "Lack of useful information concerning Division II" was ranked fifth in areas of difficulty by the sample principals. While this item was not ranked as high as "insufficient source materials available for teachers to explain Division II," it represents a general need for more detailed information to be provided to principals. The three publications of the Department of Education concerning the Division II Curriculum were not considered sufficient to provide principals, as well as teachers, with required information about the program.

Difficulty Ranked 6. "Teacher reluctance to group classes for instructional purposes" was ranked sixth in order of difficulty by sample

²H. Janzen. A letter written by the Director of Curricula, Department of Education, Government of Saskatchewan, to the author, dated January 26, 1967, p. 1.

principals. This organizational difficulty of placing pupils in groups was not perceived as being as great a difficulty as the procedural difficulty of teaching separate lessons to groups for Division II teachers. It can be assumed that, as a result of these rankings, teachers experience less difficulty in implementing organizational changes than they do in implementing procedural changes.

Difficulty Ranked 7. In the opinion of sample principals, teachers did not lack enthusiasm concerning the implementation of the Division II Curriculum. Principals ranked this item seventh in order of difficulty. It can be assumed that while teachers are amenable to change, the procedural and organizational difficulties arising from the implementation of the innovation are the areas that present difficulties for teachers.

Difficulty Ranked 8. The eighth-ranked difficulty was "Lack of assistance from central office personnel." It was felt by principals that central office personnel adequately assisted with the implementation of the Division II Curriculum. This ranking was reinforced by the second- and third-place ranking of superintendents, supervisors and consultants by principals in sources of information concerning the Division II Curriculum.

Difficulty Ranked 9. Parental resistance to the Division II Curriculum was ranked as the least difficult area by principals of Division II schools. In keeping with Cay's contention that parents

tend to be critical of methods and content they do not understand,³ it can be assumed that the information disseminated to parents concerning the Division II Curriculum, augmented by knowledge that parents obtained concerning the previously implemented Division I program, has been sufficient to overcome parental resistance.

Areas of Difficulty as Ranked by Adopter Principals

The results of the adopter principals' rank ordering of areas of difficulty experienced in implementing the Division II Curriculum are presented in Table XXXI.

Adopter principals ranked areas of difficulty experienced in the same order as the principals of the entire sample with two exceptions. "Placement of pupils in groups" was ranked 1 by adopter principals in place of "teacher reluctance to teach separate lessons to groups in the skill subjects" which was ranked as number 2. "Teacher reluctance to group classes for instructional purposes" was ranked 5 by adopter principals in place of "Lack of useful information concerning Division II" which was ranked as number 6 in order of difficulty.

Regarding the first exception, it can be assumed that, once the Division II Curriculum is adopted in a school, teacher reluctance to teach separate lessons to groups does not present as great difficulty as it does during the period of implementation. However, pupil placement remains a major difficulty. The second interchange of potential

³Donald F. Cay, Curriculum: design for learning (New York: The Bobbs-Merrel Company, Inc., 1966), p. 82.

TABLE XXXI
 MEDIAN OF SOURCES OF AREAS OF DIFFICULTY EXPERIENCED
 OR ENVISAGED AS RANKED BY PRINCIPALS OF
 ADOPTER SCHOOLS
 (N = 235)

AREAS OF DIFFICULTY EXPERIENCED OR ENVISAGED		
Rank	Difficulty	Median
1	Difficulty in placing pupils in groups	3.88
2	Teacher reluctance to teach separate lessons to groups in skill subjects	4.07
3	Insufficient source materials available for teachers to explain Division II	4.16
4	Accepting the philosophy that Division II is a better method of instructing students than the former Grade 4, 5 and 6 program.	4.38
5	Teacher reluctance to group classes for instructional purposes	4.52
6	Lack of useful information concerning Division II	4.64
7	Lack of teacher enthusiasm	5.67
8	Lack of assistance from central office personnel	6.77
9	Parental resistance	8.23

difficulties is probably the result of a reduced need for general information regarding Division II once the program has been implemented.

Areas of Difficulty Experienced by Non-Adopter Principals

"Teacher reluctance to teach separate lessons in the skill subjects" remained as the most difficult area for non-adopter principals in the implementation of the Division II Curriculum (Table XXXII). This agrees with the rank ordering by the total sample of principals.

The major change in ranking by non-adopter principals dealt with the item, "Accepting the philosophy that Division II is a better method of instructing students than the former Grade 4, 5, and 6 program." It was ranked second rather than fourth in areas of difficulty. Principals of non-adopter schools apparently do not perceive the new Division II Curriculum as being superior to the former program and are, therefore, reluctant to expend the energy necessary to implement the program. This assumption is reinforced by the finding that non-adopter principals perceived a higher degree of compatibility than did adopter principals in the Division II Curriculum when it was compared with the former Grade 4, 5, and 6 Curriculum (supra, p. 83).

General Summary of the Ranking by Principals of Sources of Information Relative to the Division II Curriculum and the Difficulties Experienced in Implementing the Division II Curriculum

Sources of Information. Adopter and non-adopter principals received basic information relative to the Division II Curriculum from Department of Educational publications. Saskatchewan Teachers' Federation publications and all other education publications were not ranked by principals as being

TABLE XXXII

MEDIANS OF AREAS OF DIFFICULTY EXPERIENCED OR ENVISAGED
AS RANKED BY PRINCIPALS OF
NON-ADOPTER SCHOOLS
(N = 356)

AREAS OF DIFFICULTY EXPERIENCED OR ENVISAGED		
Rank	Difficulty	Median
1	Teacher reluctance to teach separate lessons to groups in skill subjects	3.77
2	Accepting the philosophy that Division II is a better method of instructing students than the former Grade 4, 5 and 6 programs	3.84
3	Insufficient source materials available for teachers to explain Division II	4.05
4	Difficulty in placing pupils in groups	4.16
5	Lack of useful information concerning Division II	4.60
6	Teacher reluctance to group classes for instructional purposes	4.82
7	Lack of teacher enthusiasm	5.50
8	Lack of assistance from central office personnel	6.81
9	Parental resistance	7.98

important sources of relevant information concerning the innovation.

Superintendents, consultants and supervisors, and teachers of Division I and Division II classrooms, ranked in this order by principals, were recognized by principals as being the second most valuable source of information relative to the Division II Curriculum. This ranking pointed to the importance of interaction between supervisory and consultative officials, principals, and teachers in the effective implementation of educational innovations. A basic understanding of the philosophy, methodology, and content of proposed educational innovations is vital to all who participate in the implementary process.

Principals received little information concerning the Division II Curriculum from Saskatchewan Teachers' Federation local meetings or from Teachers' Conventions. These local-area professional organizations represent potentially valuable sources of information relative to educational innovations. It is to be hoped that, with future innovations, these organizations will assume a more vital role in dissemination of information.

Principals, as a group, do not appear to communicate to each other information relative to educational innovations. A local-level principals' organization is suggested as a means of promoting interaction between principals regarding the implementation of educational innovations.

Difficulties Experienced. The operational factors related to the Division II Curriculum--teachers teaching separate lessons to instructional groups, and the placement of pupils in groups by principals and teachers--were ranked by principals as the most difficult aspects of the implementation of the Division II Curriculum. This can be considered to a degree the result

of the second general area of difficulty, as ranked by principals, the area of an insufficient source of detailed, yet readily understood, information relative to the Division II Curriculum and its implementation available to teachers and principals. The prime factor in the promotion and implementation of educational innovations can be assumed to be the provision of adequate information to all participants in the implementary process.

A belief in the educational value of innovations by potential implementers is a requirement that must be fulfilled if the effective and rapid implementation of innovations is to result. Non-adopter principals, by ranking the item "Accepting the philosophy that the Division II Curriculum is a better method of instruction" second in order of difficulty, apparently could not recognize an increase in educational value resulting from this innovation; and, as a result, were reluctant to implement the program.

Principals of sample schools experienced little difficulty from the items "lack of teacher enthusiasm," a "lack of assistance from central office personnel" and "parently resistance" as shown by the 7, 8, and 9 ranking of these items.

III. AN ANALYSIS OF THE PRINCIPALS' RESPONSES TO INDIVIDUAL ITEMS IN THE QUESTIONS DESIGNED TO OBTAIN THE PRINCIPALS' PERCEPTIONS OF THE RELATIVE ADVANTAGE, COMPLEXITY AND COMPATIBILITY OF THE DIVISION II CURRICULUM

An analysis of the principals' replies to the twelve items within each of the three questions designed to obtain the principals' perceptions of the relative advantage, complexity and compatibility of the Division II

Curriculum, produced a rank ordering of the items within each question.

Each question was structured so that, of the twelve items within the question, three items pertained to each of the clients of the new curriculum: pupils, parents, teachers, and principals (supra, pp. 38-43).

Principal Replies to Items on the Relative Advantage Question

The means of principals' responses to each item in Question 16 of the Principals' Questionnaire, which was designed to obtain the principals' perception of the relative-advantage characteristics of the Division II Curriculum, resulted in the items being placed in the "more advantageous" and "no different in advantage" categories. Table XXXIII presents a ranking of each item by mean response in descending order of advantage as perceived by principals of the entire sample, adopter principals, and non-adopter principals.

The means of the replies of principals of adopter and non-adopter schools ranked the first four items in the "more advantageous" category as being "in relation to the slow learning student," "in relation to the student with superior learning ability," "for teachers in evaluating student progress" and "for teachers in instructing students with varying learning abilities." The non-adopter principals ranked the last two items in reverse order.

Adopter principals perceived as being "more advantageous" the items "for principals in keeping account of student progress," "for principals in organizing and placing students in classrooms," and "for students with average learning abilities" as determined by the means of responses to the

TABLE XXXIII
RANKING BY MEANS OF PRINCIPALS' PERCEPTION OF THE RELATIVE ADVANTAGE
OF THE DIVISION II CURRICULUM BY ITEM

Category	ALL PRINCIPALS (N = 561)			ADOPTER PRINCIPALS (N = 235)			NON-ADOPTER PRINCIPALS (N = 326)		
	Rank	Item	Mean	Rank	Item	Mean	Rank	Item	Mean
More Advantageous	1	in relation to the slow learning student	4.28	1	in relation to the slow learning student	4.37	1	in relation to the slow learning student	4.22
	2	in relation to the student with superior learning ability	4.24	2	in relation to the student with superior learning ability	4.27	2	in relation to students with superior learning ability	4.22
	3	for teachers in evaluating students' progress	3.91	3	for teachers in evaluating students' progress	3.99	3	for teachers in instructing students of varying learning abilities	3.87
	4	for teachers in instructing children of varying learning abilities	3.90	4	for teachers in instructing children of varying learning abilities	3.95	4	for teachers in evaluating students' progress	3.85
	5	for principals in keeping account of students' progress	3.74	5	for principals in keeping account of students' progress	3.64			
				6	for principals in organizing and placing students in classrooms	3.52			
				7	in relation to students with average learning ability	3.50			
No Difference in Advantage	6	in relation to the student with average learning ability	3.44	8	in relation to parents obtaining information regarding their child's progress	3.47	5	in relation to the student with average learning	3.38
	7	for principals in organizing and placing students in classrooms	3.42	9	in relation to the reporting of students' progress to parents	3.45	6	for principals in organizing and placing students in classrooms	3.38
	8	in relation to the reporting of students' progress to parents	3.40	10	in relation to parents understanding their child's academic ability	3.34	7	for principals in keeping account of students' progress	3.38
	9	in relation to the parents obtaining information regarding their child's progress	3.35	11	for principals in supervising teachers	3.26	8	in relation to parents obtaining information regarding their child's progress	3.33
	10	in relation to parents understanding their child's academic ability	3.29	12	for teachers in preparing lessons	2.84	9	in relation to the reporting of student's progress to parents	3.32
	11	for principals in supervising teachers	3.23				10	in relation to parents understanding their child's academic ability	3.25
	12	for teachers in preparing lessons	2.78				11	for principals in supervising teachers	3.24
							12	for teachers in preparing lessons	2.75
	Mean		3.58	Mean		3.63	Mean		3.52

items. Non-adopter principals perceived these items as being "no different in advantage."

Principals of adopter schools perceived five items as being "no different in advantage" in the Division II Curriculum as determined by item response means. Three items concerned parents, "in relation to parents obtaining information regarding their child's progress," "in relation to the reporting of students' progress to parents," and "in relation to parents understanding their child's academic ability." The remaining two items were "for principals in supervising teachers" and "for teachers in preparing lessons." Non-adopter principals ranked these items in the same order as did adopter principals but with lower means.

A summary of principals' responses to individual relative-advantage items is presented in Table XXXIIIa. Adopter and non-adopter principals perceived the Division II Curriculum as being "more advantageous" for pupils than was the former program. The Division II Curriculum was perceived by adopter principals as being "more advantageous" for teachers. Non-adopter principals perceived the program as being "no different in advantage" for teachers. Both adopter and non-adopter principals perceived the Division II Curriculum as being "no different in advantage" for both parents and principals.

Principals' Replies to Items in the Complexity Question

Principals of adopter and non-adopter schools perceived little difference in difficulty between the items designed to determine the

TABLE XXXIIIA

PRINCIPALS' PERCEPTION OF THE RELATIVE ADVANTAGE
OF THE DIVISION II CURRICULUM WITH REGARD TO PUPILS,
PARENTS, TEACHERS, AND PRINCIPALS

Category	ALL PRINCIPALS (N = 561)			ADOPTER PRINCIPALS (N = 235)			NON-ADOPTER PRINCIPALS (N = 326)		
	Rank	Client	Mean	Rank	Client	Mean	Rank	Client	Mean
More Advan- tageous	1	Pupils	3.99	1	Pupils	4.05	1	Pupils	3.94
	2	Teachers	3.53	2	Teachers	3.59			
No Difference in Advantage	3	Principal	3.46	3	Principals	3.48	2	Teachers	3.49
	4	Parents	3.34	4	Parents	3.42	3	Principals	3.34
							4	Parents	3.30
		Mean	3.58		Mean	3.63		Mean	3.52

principals' perception of the complexity of the Division II Curriculum when compared with the former Grade 4, 5, and 6 Curriculum. As shown in Table XXXIV only one item "for teachers in preparing lessons" was perceived to be "more difficult" by adopter and non-adopter principals as shown by the mean ranking of principals' replies. One item, "for students to maintain satisfactory progress" was mean ranked by principals as being "less difficult." All other items were perceived to present "no difference in difficulty" in the new Division II Curriculum when compared to the former Grade 4, 5, and 6 Curriculum.

As presented in Table XXXIVA adopter and non-adopter principals ranked the Division II Curriculum as presenting "no difference in difficulty" for pupils, parents, teachers and principals when compared with the former Grade 4, 5, and 6 Curriculum.

Principals' Replies to Items in the Compatibility Question

The mean ranking of adopter-principals' replies to the twelve items in the compatibility question (Question 19) placed nine items in the "more different" category as shown in Table XXXV. Non-adopter principals perceived only four items as being "more different." These items were "for students to be decelerated rather than failing and repeating a grade," "for parents to understand unit progress rather than grade progress," "for students to be accelerated," and "for parents to understand the operation of the school." The items "for principals in organizing and placing students in classrooms," "for teachers in teaching their classes," "for principals in keeping account of students' progress," "for teachers in preparing lessons" and "for teachers in evaluating student progress" were perceived as being "more different" by

TABLE XXXIV
RANKING BY MEANS OF PRINCIPALS' PERCEPTION OF THE COMPLEXITY
OF THE DIVISION II CURRICULUM BY ITEM

Category	ALL PRINCIPALS (N = 561)			ADOPTER PRINCIPALS (N = 235)			NON-ADOPTER PRINCIPALS (N = 326)		
	Rank	Item	Mean	Rank	Item	Mean	Rank	Item	Mean
More Difficulty	1	for teachers to prepare lessons	2.43	1	for teachers to prepare lessons	2.45	1	for teachers to prepare lessons	2.41
	2	for students to concentrate when other groups within the room are being instructed	2.54	2	for students to concentrate when other groups within the room are being instructed	2.58	2	for teachers teaching their classes	2.50
	3	for teachers teaching their classes	2.55	3	for teachers teaching their classes	2.63	3	for students to concentrate when other groups within the room are being instructed	2.51
	4	for principals in supervising teachers	2.92	4	for principals in supervising teachers	2.91	4	for principals in supervising teachers	2.92
	5	for principals in keeping account of students' progress	2.99	5	for principals in keeping account of students' progress	2.99	5	for principals in placing students in classrooms	2.97
	6	for principals in placing students in classrooms	3.01	6	for parents to understand their child's progress and achievement	3.05	6	for principals in keeping account of student's progress	2.99
	7	for parents to understand their child's progress and achievement	3.05	7	for principals in placing students in classrooms	3.05	7	for parents to accept the fact that their child requires four years to accomplish the requirements of Division II	3.01
	8	for parents to accept the fact that their child requires four years to accomplish the requirements of Division II	3.07	8	for parents to accept the fact that their child requires four years to accomplish the requirements of Division II	3.15	8	for parents to understand their child's progress and achievement	3.05
	9	for parents to accept that their child is progressing at his or her optimum rate	3.13	9	for parents to accept that their child is progressing at his or her optimum rate	3.23	9	for parents to accept that their child is progressing at his or her optimum rate	3.06
	10	for students to understand their own progress	3.20	10	for students to understand their own progress	3.25	10	for students to understand their own progress	3.16
	11	for teachers in evaluating students	3.21	11	for teachers in evaluating students	3.29	11	for teachers in evaluating students	3.20
	12	for students to maintain satisfactory progress	3.51	12	for students to maintain satisfactory progress	3.52	12	for students to maintain satisfactory progress	3.50
Less Difficulty		Mean	2.96		Mean	3.01		Mean	2.94

TABLE XXXIVA

PRINCIPALS' PERCEPTION OF THE COMPLEXITY OF THE DIVISION II CURRICULUM WITH REGARD TO PUPILS, PARENTS, TEACHERS, AND PRINCIPALS

Category	ALL PRINCIPALS (N = 561)			ADOPTER PRINCIPALS (N = 235)			NON-ADOPTER PRINCIPALS (N = 326)		
	Rank	Client	Mean	Rank	Client	Mean	Rank	Client	Mean
No Difference in Difficulty	1	Teachers	2.73	1	Teachers	2.79	1	Teachers	2.69
	2	Principals	2.97	2	Principals	2.99	2	Principals	2.96
	3	Pupils	3.05	3	Pupils	3.12	3	Pupils	3.04
	4	Parents	3.08	4	Parents	3.14	4	Parents	3.07
		Mean	2.96		Mean	3.01		Mean	2.94

TABLE XXXV
RANKING BY MEANS OF PRINCIPALS' PERCEPTION OF THE COMPATIBILITY
OF THE DIVISION II CURRICULUM BY ITEM

Category	ALL PRINCIPALS (N = 561)			ADOPTER PRINCIPALS (N = 235)			NON-ADOPTER PRINCIPALS (N = 326)		
	Rank	Item	Mean	Rank	Item	Mean	Rank	Item	Mean
More Different	1	for students to be decelerated rather than failing and repeating a grade	2.09	1	for students to be decelerated rather than failing and repeating a grade	1.98	1	for students to be decelerated rather than failing and repeating a grade	2.17
	2	for students to be accelerated	2.28	2	for students to be accelerated	2.16	2	for parents to understand unit progress rather than grade progress	2.34
	3	for parents to understand the operation of the school	2.38	3	for parents to understand unit progress rather than grade progress	2.26	3	for students to be accelerated	2.37
	4	for principals in organizing and placing students in classrooms	2.43	4	for principals in organizing and placing students in classrooms	2.28	4	for parents to understand the operation of the school	2.45
	5	for teachers in teaching their classes	2.43	5	for parents to understand the operation of the school	2.29			
	6	for teachers in preparing lessons	2.50	6	for teachers in teaching their classes	2.32			
				7	for principals in keeping account of students' progress	2.45			
				8	for teachers in preparing lessons	2.47			
				9	for teachers in evaluating student progress	2.49			
Some Different	7	for parents to understand unit progress rather than grade progress	2.52	10	for students to be grouped within classrooms according to ability	2.54	5	for teachers in teaching their classes	2.51
	8	for parents to understand that pupil progress is directly related to the child's learning ability	2.60	11	for parents to understand that pupil progress is directly related to the child's learning ability	2.58	6	for teachers in preparing lessons	2.53
	9	for teachers in evaluating student progress	2.60	12	for principals in supervising teachers	2.97	7	for principals in organizing and placing students in classrooms	2.54
	10	for principals in keeping account of student's progress	2.62				8	for parents to understand that pupil progress is directly related to the child's learning ability	2.61
	11	for students to be grouped within classrooms according to ability	2.64				9	for students to be grouped within classrooms according to ability	2.69
	12	for principals in supervising teachers	3.05				10	for teachers in evaluating student progress	2.73
							11	for principals in keeping account of students' progress	2.74
							12	for principals in supervising teachers	3.10
	Mean		2.51	Mean		2.40	Mean		2.57

adopter principals and "some different" by non-adopter principals as indicated by the mean ranking of principals' responses. Both adopter and non-adopter principals perceived as "some different" the items "for students to be grouped in classrooms according to ability," "for parents to understand that pupil progress is directly related to the child's learning ability" and "for principals in supervising teachers."

As shown in Table XXXVA adopter principals perceived a lower compatibility; that is, a greater difference between the Division II Curriculum and the former Grade 4, 5, and 6 Curriculum for pupils, parents, and teachers. Non-adopter principals perceived a greater difference for only pupils and parents, ranking teachers and principals in the "some different" category as determined by the mean ranking of principals' responses to items in the compatibility question.

General Summary of Principals' Responses to Individual Items in the Questions Designed to Obtain the Principals' Perceptions of the Relative Advantage, Complexity and Compatibility Characteristics of the Division II Curriculum

The sample principals' perception of the relative advantage of the Division II Curriculum, as determined by the mean ranking of principals' responses to individual items comprising Question 16 of the Principals' Questionnaire, determined that the Division II Curriculum was "more advantageous" for pupils and teachers and was "no different in difficulty" for principals and parents.

Principals of sample schools, by perceiving an advantage for pupils and teachers, point to the value to be derived from expending the effort necessary to implement the continuous progress, non-graded Division II Curriculum.

TABLE XXXVA

PRINCIPALS' PERCEPTION OF THE COMPATIBILITY OF THE DIVISION II CURRICULUM WITH REGARD TO PUPILS, PARENTS, TEACHERS AND PRINCIPALS

	ALL PRINCIPALS (N = 561)		ADOPTER PRINCIPALS (N = 235)		NON-ADOPTER PRINCIPALS (N = 326)	
	Rank	Client	Mean	Rank	Client	Mean
More Different	1	Pupils	2.33	1	Pupils	2.24
	2	Parents	2.50	2	Parents	2.37
				3	Teachers	2.43
Some Different	3	Teachers	2.51	4	Principals	2.56
	4	Principals	2.70			
		Mean	2.51		Mean	2.40
				3	Teachers	2.59
				4	Principals	2.79
					Mean	2.56

The continuous progress, non-graded Division II Curriculum represents no increase in difficulty for pupils, teachers, parents, and principals in the perception of principals as determined by the mean ranking of item responses in Question 17 of the Principals' Questionnaire. As a result, it can be concluded that the advantages offered by the Division II Curriculum can be obtained with no accompanying increase in difficulty for the four clients of the curriculum.

Parents, pupils, and teachers, in the perception of Division II principals, will experience a number of differences as a result of the implementation of the Division II Curriculum. By identifying the clients of the curriculum who can be expected to find differences resulting from the implementation of the innovation, educators are permitted to plan measures to reduce the impact of these differences by preparing these clients for changes to be expected.

III. SUMMARY OF CHAPTER VII

Relevant information regarding the Division II Curriculum and its implementation, which was not included in the major and related hypotheses of this study, was presented in this chapter. Nine potential sources of information, as rank ordered by principals, were evaluated as to importance. Suggestions were made to improve the information-disseminating function of sources which were judged to be relatively ineffective by principals.

Principals' difficulties in implementing the program were ranked in order of importance. Operational difficulties, "teacher reluctance to teach separate lessons to instructional groups" and "the placement of pupils in

groups by principals and teachers" represented the first-ranked area of difficulty by principals. A general lack of information for teachers and principals which explained the Division II Curriculum was ranked by principals as being second in order of difficulty. Educators, as a result of the knowledge of difficulties experienced in implementing this innovation, can make adjustments which will overcome these difficulties in future, like innovations.

The Division II Curriculum, when compared to the former Grade 4, 5, and 6 Curriculums, was perceived by principals as: (1) being "more advantageous" for pupils and teachers, and (2) presenting no appreciable increase in difficulty for pupils, parents, teachers or principals. Principals also perceived that pupils, parents, and teachers would experience a greater change than principals as a result of the implementation of the Division II Curriculum.

CHAPTER VIII

SUMMARY, CONCLUSIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

The purposes of this study were (1) to determine the extent of the adoption of the Division II Curriculum in Saskatchewan schools containing Division II classes (school years 4, 5, and 6), (2) to determine which of the three characteristics of an innovation, as perceived by principals, affect the rate of the adoption of the innovation, the Division II Curriculum, (3) to determine which of selected characteristics differentiated between adopter and non-adopter principals and schools, and (4) to determine which of the characteristics of the innovation and which of the characteristics of principals and schools best predicted the adoption of the Division II Curriculum. This chapter presents a summary of the major findings of the study, states some conclusions, and proposes suggestions for further research.

I. SUMMARY OF THE STUDY

The Sample

Following granting of permission by 61 of 62 superintendents to conduct the study in Saskatchewan superintendencies, a questionnaire was mailed to 766 principals of schools containing Division II classrooms, their names having been submitted by the superintendents. Of the 589 returned questionnaires a sample of 561 principals' replies, representing 73.24 per cent of the total population, was selected.

The Instrument

A Principals' Questionnaire was designed to obtain data relating to five areas included in the study: (1) characteristics of Division II schools, (2) characteristics of Division II principals, (3) principals' sources of information and areas of difficulty regarding the implementation of the Division II Curriculum, (4) the identification of adopter schools, and (5) principals' perception of the relative advantage, complexity, and compatibility dimensions of the Division II Curriculum.

The Identification of Adopter Schools

Adopter schools were identified on the basis of two criteria: (1) the proportion of Division II classrooms within which pupils were promoted upon the basis of units completed, and (2) a minimum of six pupil groups within a classroom organized for the instruction of arithmetic, reading, language, and spelling. Of the 561 Division II schools in the sample, 235 were identified as adopter schools; and 326, as non-adopter schools.

Determination of the Relationship between the Principals' Perception of Three Characteristics of the Division II Curriculum and the Adoption of the Program within Schools

Indices of the principals' perception of relative advantage, complexity, and compatibility of the Division II Curriculum were developed from the principals' replies to specific questions contained in the Principals' Questionnaire. Using point biserial correlation and t-tests, adopter and non-adopter principals' perception indices of the three

characteristics of the innovation were compared. A probability level of five per cent was accepted as showing significant difference.

Results. A positive significant difference was revealed between the principals' perception of the relative advantage of the Division II Curriculum and the adoption of the program within schools. No significant difference was revealed between the adoption of the Division II Curriculum and the principals' perception of the complexity of the innovation. A significant negative difference was revealed between the principals' perception of the compatibility of the Division II Curriculum and the adoption of the innovation. Principals of non-adopter schools perceived a higher degree of compatibility between the Division II Curriculum and the former Grade 4, 5, and 6 Curriculum.

Comparison of Adopter and Non-Adopter Principals and Schools

Point biserial and phi correlation, t-tests, and chi square test were used to determine if significant differences at the five per cent level existed between ten selected characteristics of adopter and non-adopter principals and schools.

Results. Of the six principal characteristics examined, significant differences were revealed between adopter and non-adopter principals on the variables: sex of the principal, years of university training, and number of degrees held by the principal. No significance was revealed between the variables: the age of the principal, principal's total years of experience as a principal, and principal's tenure as principal of present school.

Three of the four variables concerning schools revealed significant differences between adopter and non-adopter schools. The number of full-time teachers employed in the school, the number of Division II classrooms in the school, and the location of the school variables were significant at the 0.05 level. No significance difference was revealed concerning the number of grades in the school and the adopter and non-adopter schools.

The Discriminate Function

Discriminate function analysis revealed that the variation in the adoption of the Division II Curriculum was best explained by the principals' perception of the compatibility and the complexity of the innovation. Similarly, of the ten variables concerned with the characteristics of principals, the variables--number of teachers employed in a school and the tertiary training of the principal--best explained the variation in the adoption of the innovation.

Principals' Sources of Information and Areas of Difficulty Experienced Relative to the Implementation of the Division II Curriculum

In addition to the major and related hypotheses included in the study, information was presented regarding the principals' sources of information, and the difficulties experienced or envisaged by principals in the implementation of the Division II Curriculum. Analyses of the principals' perceptions of the relative advantage, complexity, and compatibility of individual aspects of the Division II Curriculum as related to pupils, parents, teachers and principals were also presented.

Results: Sources of Information. Department of Education publications were identified by principals as being the most valuable source of information concerning the Division II Curriculum. Central office personnel--superintendents, supervisors, and consultants--was ranked as being the next most valuable source of information. Teachers of Division I and Division II classrooms were considered to be the third most important source of information to Division II principals. Saskatchewan Teachers' Federation Local meetings, Teachers' Conventions, other principals, Saskatchewan Teachers' Federation publications and other publications were given lower ranking as sources of information.

Results: Areas of Difficulty. The operational factors--reluctance of teachers to teach separate lessons to groups in the skill subjects, and the placement of pupils into groups by teachers and principals--were the first-ranked area of difficulty experienced by principals in the implementation of the Division II Curriculum. The second-ranked area of difficulty experienced by principals was a lack of adequate information for teachers and for principals to explain the new program. Accepting the philosophy that the Division II Curriculum method was superior to the former Grade 4, 5, and 6 Curriculum method of instructing pupils was the third-ranked difficulty for principals. Principals of sample schools experienced little difficulty with the factors: a lack of teacher enthusiasm, a lack of assistance from central office personnel, and parental resistance.

Results: Principals' Perception of Individual Items Related to Pupils, Parents, Teachers, and Principals. Principals perceive the Division II Curriculum as being more advantageous for pupils and teachers, and as

presenting no difference in complexity for pupils, parents, teachers, and principals than the former Grade 4, 5, and 6 Curriculum. In the opinion of principals, the pupils, parents, and teachers would experience a greater change than principals as a result of the implementation of the Division II Curriculum.

II. CONCLUSIONS

Caution must be exercised in making generalizations from the conclusions of this study because of the restrictions imposed by the sample. Tentative generalizations may be made with regard to the population of Division II principals and schools in the province of Saskatchewan only, with some degree of confidence.

Major Hypotheses

Rogers' contention that the perceived characteristics of an innovation affect the adoption process was supported only in the relative advantage dimension by this study.¹ Principals who adopted the Division II Curriculum perceived a high degree of relative advantage in the innovation.

The tendency of innovators to adopt more quickly innovations in which they perceive a low degree of complexity was not supported by this study, although a trend towards this assumption was perceived. The complexity of an innovation was not perceived as a characteristic which had a direct

¹Everett M. Rogers, Diffusion of Innovation (New York: The Free Press of Glencoe, 1962), pp. 124-131.

effect upon the adoption of an innovation.

The finding that principals who adopted the Division II Curriculum perceived a lower degree of compatibility in the innovation than non-adopter principals. This appears contrary to Rogers' assumption that innovators tend to adopt more quickly innovations in which they perceive a high degree of compatibility.² It can be concluded that one of the factors that affect the adoption of an innovation is that innovators must perceive a sufficient value difference resulting from the implementation of the innovation to perceive that the effort required to implement the innovation is warranted.

Related Hypothesis

On the basis of the results of this study, there is some evidence that the principals who adopt rapidly innovations, such as the Division II Curriculum, is male and tends to have completed more years of university training, with a greater number of university degrees.

Two characteristics of schools which are major factors in the implementation of innovations are the size of the adopting unit within the school and the location of the school in areas of high concentration of population.

Related Factors. There is some evidence, on the basis of the results of this study, that the adoption of curriculum innovations is dependent, to a degree, on the availability of adequate information concerning the

²Ibid., p. 127

innovation and its implementation for all who participate in the adoption process. The acceptance of the value of anticipated advantages of the innovation by those involved in the innovation is also a factor that has some effect on the adoption process.

III. SUGGESTIONS FOR FURTHER STUDY

This study concentrated on the adoption of one innovation at the years 4, 5 and 6 in the elementary school. Similar studies of the implementation of the Division I, Division III, and Division IV Curriculums in Saskatchewan schools, using samples of superintendents, principals, and teachers would help to determine whether the findings of this study are vindicated at all school levels.

Only three characteristics of innovations have been considered in this study. The relation of perceived divisibility and communicability characteristics should be investigated to establish the validity of the assumption that these dimensions have an effect on the adoption process.

While considerable research has been conducted to determine the characteristics of educational innovators and educational adopting units, the results have been relatively inconclusive. Further research on the factors which influence the implementation of educational innovations remains to be conducted.

An examination to determine effective means of disseminating information relative to curriculum changes to all who participate in the implementation is required. This is evidenced by the Division II principals' expressed difficulty of a lack of information to explain the innovation to teachers and principals.

Upon examination of the findings of this study, it becomes evident that the implementation of educational innovation is dependent upon a multitude of determined and undetermined factors relative to the innovation, the innovator, and the adopting unit. The need for continued research relative to educational innovation is of vital concern if education is to keep pace with the changing demands of society.

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A P P E N D I C E S

APPENDIX A

CORRESPONDENCE RELEVANT TO STUDY

DEPARTMENT OF EDUCATION

HJ/mg

Regina, Saskatchewan.
January 26, 1967.

Dear Mr. Guy:

This will acknowledge your long letter in which you request some information from me. May I first of all congratulate you upon taking time out to work on courses leading to a Master's degree. In the long run I am sure that you will find this present sacrifice of time and energy most rewarding.

The topic you are tackling is one with which we are presently concerned. Just last week we had a meeting to determine how we could arrange an evaluation of the extent to which the Divisions I and II programs are being implemented. We have set up a committee of three to bring forward some suggestions as to methods of discovering what is actually being accomplished. Behind the investigation we hope will come some positive encouragement to those areas which have progressed very little.

You should keep in mind that this is only the third year in which Division I has been operative as an authorized program, and only the second for Division II. At the beginning of the divisional system we had a four-day session with all Superintendents of Schools. We asked them at that time to arrange institutes with their teachers in order to help them carry through the philosophy of the program. The Saskatchewan Teachers' Federation was most helpful in also arranging four-day summer institutes, with surprisingly good attendance. Some areas in the province had anticipated the change by starting flexible promotion some years before. In fact, it was because of these experiments that we were able to introduce the plan on a province-wide basis. I suppose we got some of our original thinking from Dr. Riddell, former Superintendent of the Hamilton, Ontario school system where such was carried on some twenty-six years ago. He addressed our Superintendents' Convention about six years ago. Then more recently the work of men like Dr. Goodlad had tremendous influence upon us, as it has had in the United States.

Now to come to your problems. The criteria for distinguishing between those who have adopted effectively the Division II philosophy and those who have not would appear to me as being the following:

- (a) Belief in the "continuous progress" concept for each individual

- (b) Flexible promotion (no grades)
- (c) Effective grouping of pupils
- (d) The extent to which instructional materials have been developed to suit individual differences.
(slow learning, average, bright)

Problem II

The background knowledge necessary for teachers was obtained through institutes (as mentioned) S.T.F. seminars, College of Education classes, and the following printed materials:

- (a) A Plan for the Reorganization of Instruction
in Saskatchewan Schools
- (b) Questions and Answers
- (c) Division I and II Guides

In addition I personally addressed dozens of groups of teachers at Conventions and Institutes, as did my colleagues.

Problem III

I feel that all areas of the province have adopted the Division program in principle. They were really forced to adopt it because of the direction from the Department. However, the degree of implementation varies markedly depending upon the acceptance of the philosophy by Superintendents, principals, and teachers. The big problem is to discover the degree of implementation. One way might be to prepare a questionnaire for Superintendents to complete. More accurate data might be secured by having principals and teachers complete the same questionnaire or one specifically prepared for them. Some suggestions for preparing such questionnaires might grow out of our pamphlet on "Questions and Answers".

I think it would be possible to obtain representative samples of two kinds: ones where good progress in implementation has been made, and ones where little has been accomplished to date. But, how would you measure the one against the other? There are so many intangibles, which, nevertheless, are inherent in the change and are plus factors. If one uses marks as a criterion the system has not been used long enough to indicate whether the new produces better overall averages. I feel that it would be possible but rather difficult to set up one sample or representative group against another and come up with any significant conclusions at this early point in time. The survey type of study through questionnaires would give a good deal of information.

I can list for you a number of jurisdictions where good progress has been made: Kindersley School Unit, Cupar School Unit, Meadow Lake School Unit, Yorkton Public Schools, Swift Current Public Schools, Moose Jaw Public Schools, Regina Public and Separate Schools, Saskatoon Separate and Public Schools. In terms of individual school plants this would give you a fairly large sample.

I trust this information will be of help to you. I am sending you under separate cover the items mentioned under Problem II.

Yours faithfully,



H. Janzen,
Director of Curricula.

Mr. A. J. Y. Guy,
Suite 8 - 9938 - 88th Avenue,
EDMONTON, Alberta.

DEPARTMENT OF EDUCATION

OFFICE OF THE DEPUTY MINISTER

LHB/ad

Regina, Saskatchewan,
February 1, 1967.

Dear Mr. Guy:

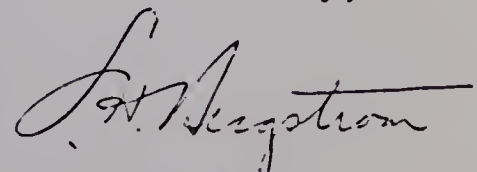
In reply to your letter of January 27, the Department will be pleased to do anything possible to facilitate the research you propose in connection with your Master's thesis in educational administration.

I am therefore referring your letter to Dr. L. M. Ready, Assistant Deputy Minister, for further attention, and for the benefit of such advice as he may offer in regard to the sample of schools you might use. I would wonder whether it is practical or practicable to use all Division II schools in the province or whether it might be as effective to select a smaller but representative sample -- say of categories of schools of various sizes. If your advisors have given you some direction in this, we would of course try to conform to such advice.

In any event, I am sure that Dr. Ready will give you the information you have asked for and perhaps as well some very useful suggestions and advice as to the best means of selecting and approaching the schools. I would imagine that the superintendents of schools should be involved in this context and that Dr. Ready would assist by way of an introductory memorandum to them, soliciting their co-operation and assistance on your behalf.

You may look for further correspondence in the near future from Dr. Ready.

Yours faithfully,



L. H. Bergstrom,
Deputy Minister.

Mr. A. J. Y. Guy,
Suite 8 - 9938 - 88th Avenue,
Edmonton, Alberta.

c.c. Dr. Ready.

THE
BOARD OF EDUCATION

154

ADMINISTRATION OFFICES

FOR

THE REGINA PUBLIC SCHOOL DISTRICT NO. 4 OF SASKATCHEWAN

AND

THE REGINA COLLEGIATE INSTITUTE

1235 COLLEGE AVE.,
REGINA, SASK.

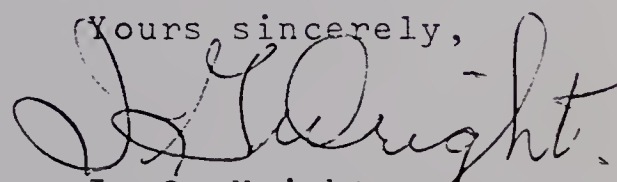
Feb. 23, 1967.

Mr. A. J. Y. Guy,
Suite 8,
9938 - 88th Ave.,
EDMONTON, Alberta.

Dear Alex:

Permission is granted for the distribution of your questionnaire on March 2 to the principals of the Regina Public Elementary Schools. The completion of the questionnaire will be entirely voluntary by the principals; however, I know you will find the principals to be very co-operative.

Yours sincerely,



I. G. Wright,
Planning and Research Officer.

IGW/jp

Page 10

The purpose of this study was to determine the relationship between the number of years of experience and the number of years of teaching. The study was conducted in the following manner: A questionnaire was distributed to all teachers in the state of Texas. The questionnaire asked for the number of years of experience and the number of years of teaching. The results of the study are as follows: The number of years of experience and the number of years of teaching are positively related. The more years of experience a teacher has, the more years of teaching they have. The relationship is linear and the correlation coefficient is .85.

The following table shows the relationship between the number of years of experience and the number of years of teaching. The data is as follows:

APPENDIX B

QUESTIONNAIRES SUBMITTED TO SUPERINTENDENTS

The following table shows the relationship between the number of years of experience and the number of years of teaching. The data is as follows:

The following table shows the relationship between the number of years of experience and the number of years of teaching. The data is as follows:

Page 11 of 12

Department of Educational
Administration,
University of Alberta,
Edmonton, Alberta,
May 18, 1967.

Dear Sir:

As part of my graduate studies' program in Educational Administration at the University of Alberta I propose to conduct a survey to determine the extent of the implementation of the Division II Curriculum in Saskatchewan schools. In addition I propose to examine the principal's perception of the characteristics of this program. Completion of this research study requires your permission to allow me to approach the principals of schools containing Division II classrooms in your superintendency or unit to complete a questionnaire, a copy of which is enclosed. In order that I may contact these principals by mail I require, in addition, a list of their names and school addresses.

Members of the Department of Education and in particular the Curriculum Branch have expressed interest and support for this study. Mr. H. Janzen has provided a letter to this effect (see attached copy).

It is hoped that this research study will provide information and knowledge of interest and value to educators generally.

Please complete the pink superintendent's questionnaire and return in the enclosed, stamped, self-addressed envelope. Your immediate response will be appreciated.

Thank you for your co-operation and contribution.

Yours very truly,

A. J. Y. Guy

SUPERINTENDENT'S QUESTIONNAIRE

School Unit or District

May I approach the principals of schools containing Division II classrooms in your superintendency to complete a questionnaire?

Yes ☐No ☐

If yes, please provide me with: (1) the names of principals of schools containing Division II classrooms, and (2) their school addresses.

PRINCIPAL	SCHOOL	SCHOOL ADDRESS

DEPARTMENT OF EDUCATION

HJ/mg

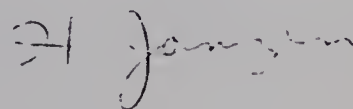
Regina, Saskatchewan,
May 17, 1967.

TO SUPERINTENDENTS OF SCHOOLS AND PRINCIPALS:

Mr. A. J. Y. Guy, principal of a public school in Regina now on leave to do post-graduate work at the University of Alberta, is undertaking a study on the implementation of the Division II Curriculum in the schools of Saskatchewan. For such a study he has prepared a carefully-developed questionnaire which has been validated as a research instrument. He is now collecting data on a province-wide basis and requires the co-operation of Superintendents and Principals in the distribution, completion, and return of these questionnaires.

This study has been examined and discussed with the Deputy Minister, the Assistant Deputy, and members of the Curriculum Branch and we are all agreed that the results obtained will be of interest and value to the Department and to educators generally. We, therefore, request that you give your full support to this project as you have done previously with comparable research of a practical nature.

Yours faithfully,



H. Janzen,
Director of Curricula.

Page 10 of 10
Appendix C
Questionnaires Submitted to Principals

APPENDIX C

QUESTIONNAIRES SUBMITTED TO PRINCIPALS

Department of Educational
Administration,
University of Alberta,
Edmonton, Alberta,
May 24, 1967.

Dear Sir or Madam:

As part of my graduate studies' program in Educational Administration at the University of Alberta I propose to conduct a survey to determine the extent of the implementation of the Division II Curriculum in Saskatchewan schools. In addition I propose to examine the principal's perception of the characteristics of this program. I solicit your aid in conducting this research study by completing the enclosed questionnaire.

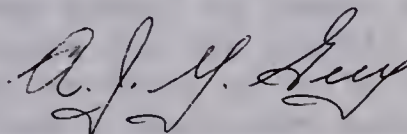
The Superintendent of your School Unit or Superintendency has agreed to permit me to solicit your cooperation in this project. Members of the Department of Education and in particular the Curriculum Branch have expressed interest and support for this study. Mr. Janzen has provided an enclosed letter to this effect.

It is hoped that the results of this study will provide information and knowledge of value to educators generally.

Please complete the principal's questionnaire and return it in the enclosed, stamped, self-addressed envelope. Your immediate response will be appreciated. All individual replies will be held in strictest confidence.

Thank you for your cooperation and contribution.

Yours very truly,



A. J. Y. Guy

TO BE COMPLETED BY PRINCIPALS

SCHOOL: _____

LOCATION: _____

A. SCHOOL CHARACTERISTICS:

1. What grades are included in your school? Check the reply which most closely describes your school.

_____ Grades 1 to 6
 _____ Grades 1 to 7
 _____ Grades 1 to 8
 _____ Grades 1 to 9
 _____ Grades 1 to 11
 _____ Grades 1 to 12
 _____ Grades 4 to 6
 _____ Grades 4 to 8

2. How many full-time teachers are there in your school? Include yourself as principal in the total.

_____ 4 or fewer
 _____ 5 to 9
 _____ 10 to 14
 _____ 15 to 19
 _____ 20 to 24
 _____ 25 to 29
 _____ 30 to 34
 _____ 35 to 39
 _____ 40 or more

3. Is your school located in

_____ a rural area
 _____ a town
 _____ a city

B. DIVISION II CHARACTERISTICS

4. How many Division II classes or Grade 4, 5 and 6 classes do you have in your school?

Note: Do not include any special classes such as: auxiliary, remedial, physically or emotionally handicapped, or hard of hearing classes.

_____ Units 1 to 4, Division II Grade 4.

_____ Units 1 to 8, Division II Grades 4 and 5.

_____ Units 5 to 8, Division II Grade 5.

_____ Units 5 to 12, Division II Grades 5 and 6.

_____ Units 9 to 12, Division II Grade 6

5. What proportion of the Division II (Grade 4, 5 and 6) classrooms in your school no longer promote by grades and now promote students on the basis of units completed? Place a check mark before the appropriate proportion.

_____ All classrooms
 _____ Two-thirds of the classrooms
 _____ One-half of the classrooms
 _____ One-third of the classrooms
 _____ None of the classrooms

6. Using one line, designated Classroom A to T, for each classroom of Division II, Grade 4, 5, and 6, in your school, identify the number of separate groups which the teacher of that classroom teaches in each of the subjects listed below. Identify the Grade(s) in each classroom and place a check mark under the appropriate number of groups.

[illegible]

7. Using rank ordering, identify the sources of information which provided you with the greatest amount of useful information concerning the new Division II Curriculum and its implementation.

Note: Rank the following from 1, the greatest source of useful information, to 9, the least valuable source of useful information.

- _____ Department of Education material. (Division II Curriculum Guides, other publications.)
- _____ Teachers of Division I in your school.
- _____ Teachers of Division II in your school.
- _____ Your superintendent.
- _____ Other principals.
- _____ Saskatchewan Teachers' Federation publications.
- _____ S. T. F. local meeting and Teachers' Conventions.
- _____ Other educational publications.
- _____ Supervisors and consultants in your school system.

ADMINISTRATOR CHARACTERISTICS:

9. What is your sex?

- _____ Male
- _____ Female

8. Using rank ordering, identify the areas of difficulty you experienced or envisage experiencing in the implementation of the Division II Curriculum in your school.

Note: Rank the following from 1, the area of greatest difficulty, to 9, the area of least difficulty.

- _____ Lack of teacher enthusiasm.
- _____ Parental resistance.
- _____ Lack of useful information concerning Division II.
- _____ Lack of assistance from central office personnel.
- _____ Teacher reluctance to group classes for instructional purposes.
- _____ Insufficient source materials available for teachers to explain Division II.
- _____ Accepting the philosophy that Division II is a better method of instruction students than the former Grade 4, 5 and 6 program.
- _____ Difficulty in placing pupils in groups.
- _____ Teacher reluctance to teach separate lessons to the groups in Arithmetic, Reading, Spelling and Language.

10. Counting the present school year, what is the total years of experience you have had as a principal?

- _____ 1 year
- _____ 2 to 3 years
- _____ 4 to 6 years
- _____ 7 to 9 years
- _____ 10 to 12 years
- _____ 13 to 15 years
- _____ 16 to 18 years
- _____ 19 to 21 years
- _____ 22 years or more

4.

11. How long have you been principals of this school including the present year?

- ☐ 1 year
- ☐ 2 to 3 years
- ☐ 4 to 6 years
- ☐ 7 to 9 years
- ☐ 10 to 12 years
- ☐ 13 to 15 years
- ☐ 16 to 18 years
- ☐ 19 to 21 years
- ☐ 22 years or more

12. What is your age?

- ☐ 24 years and under
- ☐ 25 to 29 years
- ☐ 30 to 34 years
- ☐ 35 to 39 years
- ☐ 40 to 44 years
- ☐ 45 to 49 years
- ☐ 50 to 54 years
- ☐ 55 to 59 years
- ☐ 60 or more years

13. With how many years of training are you credited for salary purposes?

- ☐ 1 year
- ☐ 2 years
- ☐ 3 years
- ☐ 4 years
- ☐ 5 years
- ☐ 6 years

14. What university degree(3) do you hold?

- ☐ No degree
- ☐ B. Ed.
- ☐ B.A.
- ☐ M. Ed.
- ☐ M.A.
- ☐ B.Ed. M.A.
- ☐ B.A. M. Ed.
- ☐ Other degree. Specify _____

15. How much graduate work have you completed in educational administration?

- ☐ No graduate university courses in educational administration.
- ☐ Some graduate university courses in educational administration.
- ☐ Hold a graduate degree in educational administration

D. PRINCIPALS' PERCEPTION OF DIVISION II CHARACTERISTICS:

16. DIRECTIONS:

- (a) Please read each item carefully.
- (b) Consider carefully how well each item describes your perception of the new Division II Curriculum in comparison with the former Grade 4, 5 and 6 curriculums.
- (c) Decide whether the new Division II Curriculum is: decidedly more advantageous, more advantageous, no different in advantage, less advantageous, or decidedly less advantageous than the former Grade 4, 5 and 6 curriculums in regard to the conditions or aspects described by the items below.
- (d) Draw a circle around one of the five letters following the items to show the answer you have selected.

A - Decidedly more advantageous

B - More advantageous

C - No different in advantage

D - Less advantageous

E - Decidedly less advantageous

- | | | | | | |
|--|---|---|---|---|---|
| 1. in relation to the student with average learning ability. | A | B | C | D | E |
| 2. in relation to the slow learning student. | A | B | C | D | E |
| 3. in relation to the student with superior learning ability. | A | B | C | D | E |
| 4. in relation to the reporting of students' progress to parents. | A | B | C | D | E |
| 5. in relation to the parents obtaining information regarding this child's progress. | A | B | C | D | E |
| 6. in relation to parents understanding their child's academic ability. | A | B | C | D | E |
| 7. for teachers in instructing children of varying learning abilities | A | B | C | D | E |
| 8. for teachers in preparing lessons | A | B | C | D | E |

A - Decidedly more advantageous

B - More advantageous

C - No different in advantage

D - Less advantageous

E - Decidedly less advantageous

9.	for teachers in evaluating students' progress	A	B	C	D	E
10.	for principals in organizing and placing students in classrooms	A	B	C	D	E
11.	for principals in supervising teachers	A	B	C	D	E
12.	for principals in keeping account of students' progress	A	B	C	D	E

17. DIRECTIONS:

- a. Please read each item carefully.
- b. Consider carefully how well each item describes your perception of the new Division II Curriculum in comparison with the former Grade 4, 5, and 6 curriculums.
- c. Decide whether the new Division II Curriculum is: decidedly more difficult, more difficult, no different in difficulty, less difficult, or decidedly less difficult than the former Grade 4, 5, and 6 curriculums in regard to the conditions or aspects described by the items below.
- d. Draw a circle around one of the five letters following the items to show the answer you have selected.

A - Decidedly more difficult

B - More difficult

C - No different in difficulty

D - Less difficult

E - Decidedly less difficult

- | | | | | | |
|--|---|---|---|---|---|
| 1. for students to understand their own progress | A | B | C | D | E |
| 2. for students to concentrate when other groups within the room are being instructed | A | B | C | D | E |
| 3. for students to maintain satisfactory progress | A | B | C | D | E |
| 4. for parents to understand their child's progress and achievement | A | B | C | D | E |
| 5. for parents to accept the fact that their child requires four years to accomplish the requirements of Division II | A | B | C | D | E |
| 6. for parents to accent that their child is progressing at his or her optimum rate | A | B | C | D | E |
| 7. for teachers to prepare lessons | A | B | C | D | E |
| 8. for teachers in evaluating students | A | B | C | D | E |
| 9. for teachers teaching their classes | A | B | C | D | E |

A - Decidedly more difficult

B - More difficult

C - No different in difficulty

D - Less difficult

E - Decidedly less difficult

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 10. | for principals in placing students in
classrooms | A | B | C | D | E |
| 11. | for principals in supervising teachers | A | B | C | D | E |
| 12. | for principals in keeping account of
students' progress | A | B | C | D | E |

18. DIRECTIONS:

- a. Please read each item carefully.
- b. Consider carefully how well each item describes your perception of the new Division II Curriculum in comparison with the former Grade 4, 5, and 6 curriculums.
- c. Decide whether the new Division II Curriculum is: decidedly more different, more different, some different, slightly different, or no different than the former Grade 4, 5, and 6 curriculums in regard to the conditions or aspects described by the items below.
- d. Draw a circle around one of the five letters following the item to show the answer you have selected.

A - Decidedly more different

B - More different

C - Some different

D - Slightly different

E - No different

- | | | | | | |
|--|---|---|---|---|---|
| 1. for students to be grouped within classrooms according to ability | A | B | C | D | E |
| 2. for students to be accelerated | A | B | C | D | E |
| 3. for students to be decelerated rather than failing and repeating a grade | A | B | C | D | E |
| 4. for parents to understand the operation of the school | A | B | C | D | E |
| 5. for parents to understand unit progress rather than grade progress | A | B | C | D | E |
| 6. for parents to understand that pupil progress is directly related to the child's learning ability | A | B | C | D | E |
| 7. for teachers in preparing lessons | A | B | C | D | E |
| 8. for teachers in evaluating student progress | A | B | C | D | E |
| 9. for teachers in teaching their classes | A | B | C | D | E |

A - Decidedly more different

B - More different

C - Some different

D - Slightly different

E - No different

10. for principals in organizing and placing
students in classrooms

A B C D E

11. for principals in supervising teachers

A B C D E

12. for principals in keeping account of
students' progress

A B C D E

THANK YOU FOR YOUR EFFORTS IN COMPLETING THIS QUESTIONNAIRE.

DEPARTMENT OF EDUCATION

HJ/mg

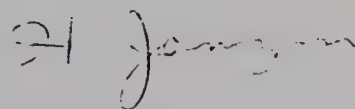
Regina, Saskatchewan,
May 17, 1967.

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This study has been examined and discussed with the Deputy Minister, the Assistant Deputy, and members of the Curriculum Branch and we are all agreed that the results obtained will be of interest and value to the Department and to educators generally. We, therefore, request that you give your full support to this project as you have done previously with comparable research of a practical nature.

Yours faithfully,



H. Janzen,
Director of Curricula.

Department of Educational
Administration,
University of Alberta,
Edmonton, Alberta,
June 10, 1967

Dear

Approximately two weeks ago I mailed to you a letter soliciting your assistance in a research study by completing and returning a questionnaire. The study is designed to determine the extent of the implementation of the Division II Curriculum in Saskatchewan schools, as well as to obtain the principals' perception of the program. My records show that your reply has not as yet been received.

I realize that June is a particularly busy month, but I request that you set aside a few minutes to complete the questionnaire so that an inclusive survey may be obtained. The value of the research study is dependent upon the complete return of the questionnaires.

Thank you for your assistance and cooperation in making the survey of the province complete.

Yours very truly,

A. J. Y. Guy

B29871